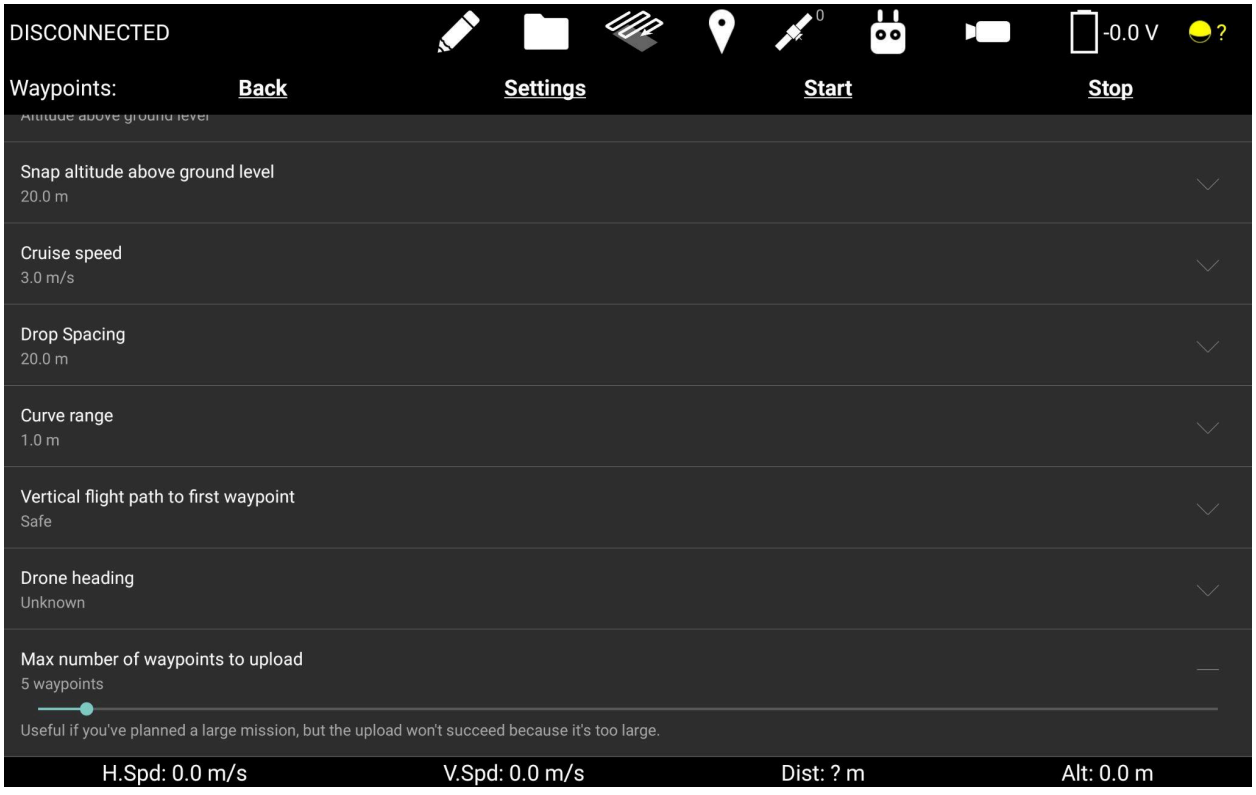
Version 2.20.4

All versions

Upload only the first part of your waypoint mission

This feature is useful when you've planned a really long mission that you can't successfully start. This is mainly an issue with the DJI drones. You might get an error about how the mission is too long, or if you're trying to upload a lot of waypoints the upload might fail if you don't have great radio reception.

You can now control how many waypoints you actually want to upload to the drone via the new "Max number of waypoints to upload" slider at the bottom of the waypoint mission settings. By default, this setting is set to 99, which will upload the entire mission.



This feature comes with new graphics on the map and side view. The portion of the waypoint mission that won't be uploaded will be diminished, with shorter dashes and

smaller teardrop-shaped waypoint icons. See the following screenshot for a comparison of the different stages of a waypoint mission.

Fixed an error when downloading elevation maps on old versions of Android
Some people were seeing a "Elevation Map Download Failed (java.security.cert.CertPathValidatorException: Trust anchor for certifications path not found.)" error on old versions of Android (typically those running the GE version of the app). This is now fixed until 2035.

Kml overlay bug fixes.
Kml overlay lines and polygons that don't specify their colors or line thickness will now be white instead of not working at all.

Fixed a bug where the fill of kml polygons would look like it was missing a vertex.

Pixhawk version

Contrast app now works on Freefly's latest Herelink black firmware.

If you're flying an Astro with a Herelink Black and a mounted tablet, you can now use this version of the Contrast app.

Fixed a bug in which the gimbal would be pitched down if the flight controller lost stick inputs, but not MAVLink.

Version 2.20.3

Pixhawk version:

Fixed a bug related to control of Pixy U firmware 7.7.3, and improved the control.

Fixed a bug in which the boom light color radio buttons selected the wrong color.

Version 2.20.2

All versions

Automatically emergency release Ignis on a Puncture Motor Error
So far, all of the hang fires that have occurred with Ignis have been caused by the puncture motor getting jammed on something (like a broken sphere's shell). This causes Ignis to report a Puncture Motor Motion Error, which requires you to fly back, land, clear the jam, and power-cycle Ignis to fix it. If you're doing ignition operations, you should trigger the emergency release when you see this error just in case the jammed sphere causes a hang fire. Additionally, if you leave Ignis in this jammed state for too long, the puncture motor might burn out, which requires you to send your Ignis back to us to get it fixed. Emergency releasing cuts the power to the puncture motor and protects it.

The Ignis app will now automatically trigger an emergency release for you when it detects the Puncture Motor Motion Error. The reason we didn't implement this earlier is because sometimes we fly demos of Ignis without the needles in, so that none of the spheres get punctured. If Ignis's emergency release was triggered during a demo, then there would be nothing tying the aluminum block to the hopper, and it would instead fall down and hit something or get lost. So, the compromise is that the automatic emergency release gives you 5 seconds to cancel it if you're doing a demo and don't want to drop the aluminum block. The puncture motor shouldn't burn out in 5 seconds. If you're doing ignition operations, just let it automatically emergency release, or trigger it immediately by pressing the "Emg Release Now" button.

The only other times Ignis will automatically emergency release are if it loses power while it is dropping, or if it is jammed during its initial calibration. These features are built into Ignis's firmware, so they'll happen even if you lose radio link, and there's no canceling them.

Pixhawk versions:

Fixed a bug introduced in 2.20.1 in which the app thought it didn't have all of the permissions it needed on Android 13

Added support for Pixy U firmware 7.7.3

You can now set the boom light colors to "Off" in the Drone Amplified Alta X setup screen.

Configuring a custom Mavlink connection now allows for specifying a drone IP address, but auto-detecting the port. This is necessary for the Pilot Pro controller.

Added Mavlink connection presets for the Pilot Pro controller.

Added a display for a third Drone Amplified rangefinder

Drone Amplified rangefinder readings are now recorded in the flight log

Version 2.20.1

All versions

Increased the complexity of the pdf files that the app can parse
The app's parser has an upper limit to the number of objects it can track within a pdf file. For now, I've increased the limit by 20x, but I'll redesign this later so there won't be a limit at all.

Pixhawk versions:

Added support for the Astro's Remote ID capability added in firmware 1.3.2
The app will transmit the operator's location to the Astro, so it can broadcast that from its Remote ID module. The app will use the tablet's GPS location if that has been enabled in the Settings, otherwise it will use the drone's home location.

Fixed a bug in which the Alta X's battery voltage was wrong

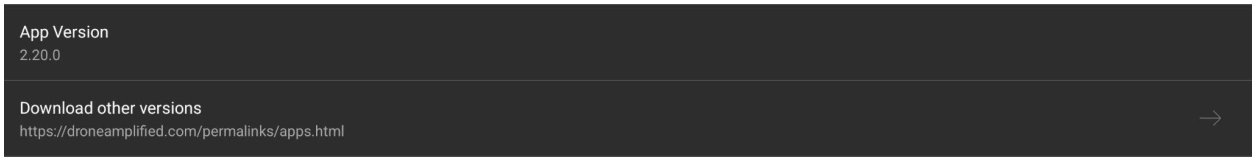
The app was displaying the battery voltage derived from a message that only included 10 of the 12 cells of the battery, so the voltage was about 8V lower than it actually is.

Version 2.20.0

All versions:

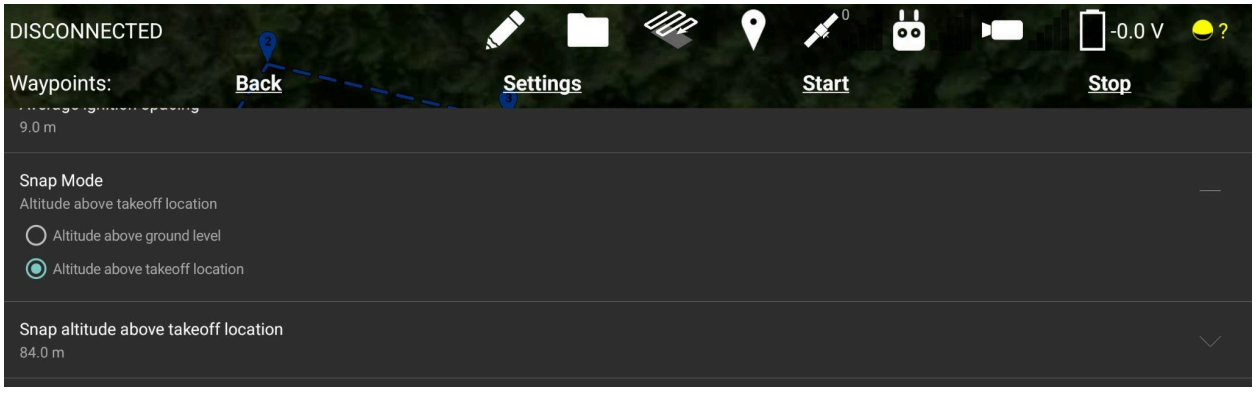
In-app link to download new apk's from our website

Go to Settings, and below the App Version you can click on the button to open your web browser to https://droneamplified.com/permalinks/apps.html

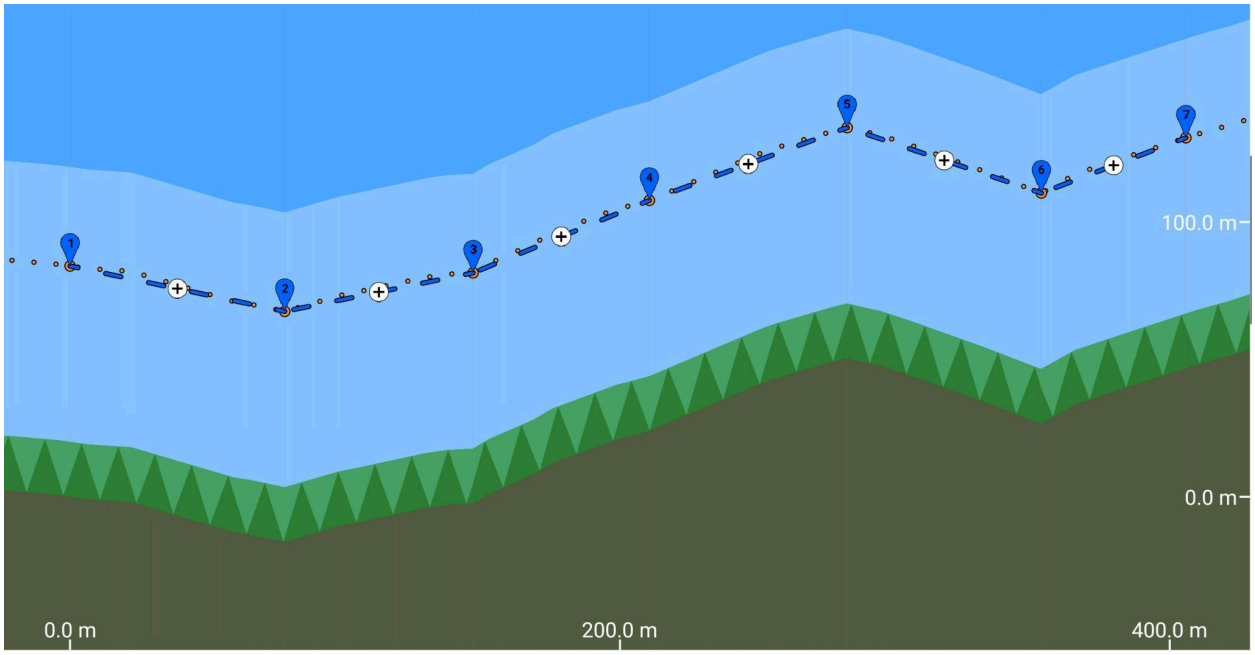


Snap waypoint altitude relative to the takeoff location's elevation

In the Waypoint Settings menu, there's a new Snap Mode option, which lets you toggle where the waypoint snap line will be (the orange dotted line in the side view).



In previous versions of the app, and by default, the setting is set to Altitude above ground level, which lets you easily make terrain-following missions like this:



The new setting makes the snap line flat so you can easily make missions where the drone doesn't ascend or descend.

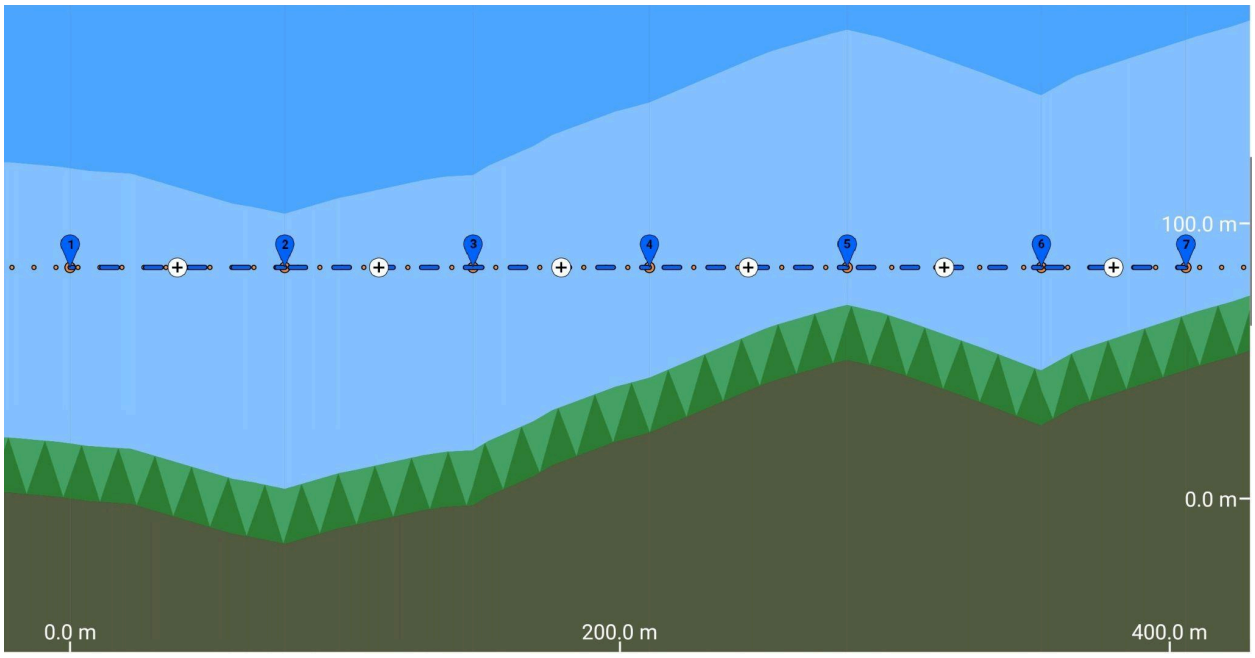


Photo information now saved in flight log

The app will now save a "Photo Info" column in the flight log. This column will be blank except when the camera takes a photo. If you're using a Pixhawk system (Wiris Pro, Astro Mapping Kit, or NextVision), the column will contain the path of the image file that was

saved on the camera's storage. DJI systems don't report that information, so this column will instead contain information about the kind of photo (Single / Interval), with some other caveats.

	AA	AB	AC
ɔo	Video Timestam	Photo Info	Battery 1 Energy	B
0			69	
0			69	
0		2016-12-01_00-00-53.655.jpg	69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0			69	
0		2016-12-01_00-00-56.014.jpg	69	
0			69	

This column only gets logged if the message from the camera makes it to the app. So, if you have radio problems, or your Wiris Pro bugs out, then this won't get logged.

Improved the drone line drawing icon

Old: New:

Pixhawk version:

Bug fixes:
The app will now place a waypoint at the drone's location if you stop a waypoint mission before it's complete.

The NextVision camera temperature now always uses the correct temperature thresholds when it changes to yellow or red.

The NextVision gimbal angles logged in the flight log are now world-relative instead of body-relative.

Version 2.19.3

No new DJI version.
DJI users can stay on 2.19.2

Pixhawk version:

Minor Improvements:

If Ignis emergency releases for any reason, the app will play the Ignis disconnected sound (three beeps) and pop up the Ignis controls on the Fly screen.

When flying with a NextVision camera, the trigger button on the Herelink now toggles the wheel between controlling pitch or zoom of the NextVision camera. It used to toggle between pitch or yaw, but you can't yaw the NextVision gimbal.

Zoom magnification is now displayed in the camera control sidebar

Fixed a bug in which the pitch rings wouldn't be drawn in the correct location when the Wiris Pro zoomed in.

Fixed a bug in which the app wouldn't display the Herelink or NW Blue Controller RSSI for some controllers.

Improved Drone Setup->Advanced configuration->Flight Controller Parameters->Mavlink Connection options to aid with switching camera payloads on Astro Firmware 1.2.10.

Version 2.19.2

All versions:

Disarm Ignis if the drone is flying without GPS signal
The app will now automatically disarm Ignis if the drone is flying and either the GPS signal strength is 0, or if it's been more than 5 seconds since the drone has reported its GPS location.

This is a critical update for Ignis users because if the drone loses GPS, it will appear to be at its last known location, but it could possibly be blown outside of Ignis's geofence by the wind.

We haven't ever heard of anyone losing GPS mid-flight with the Matrice 600, but we have recently received a report of it happening with an Alta X.

When the Alta X loses GPS mid-flight, the GPS signal bars and number of satellites drop to 0. This will make the app play a warning sound. The drone will also transition from position control mode into altitude control mode, and the app will play another sound to indicate this.

While the drone has lost GPS, it will maintain its altitude, but it can be blown horizontally by the wind. The drone's icon on the map will stay in its last known location, but it will still rotate to display the drone's current heading.

If your Alta X loses GPS mid-flight, you should disarm Ignis, then yaw the drone until its icon on the map faces back toward home. Then, fly forward and use the video feed to avoid obstacles as you fly back. If you cannot find your way back to home, look for a safe place to land and initiate an auto landing. This video demonstrates the procedure: https://www.youtube.com/watch?v=-vad9F020j4

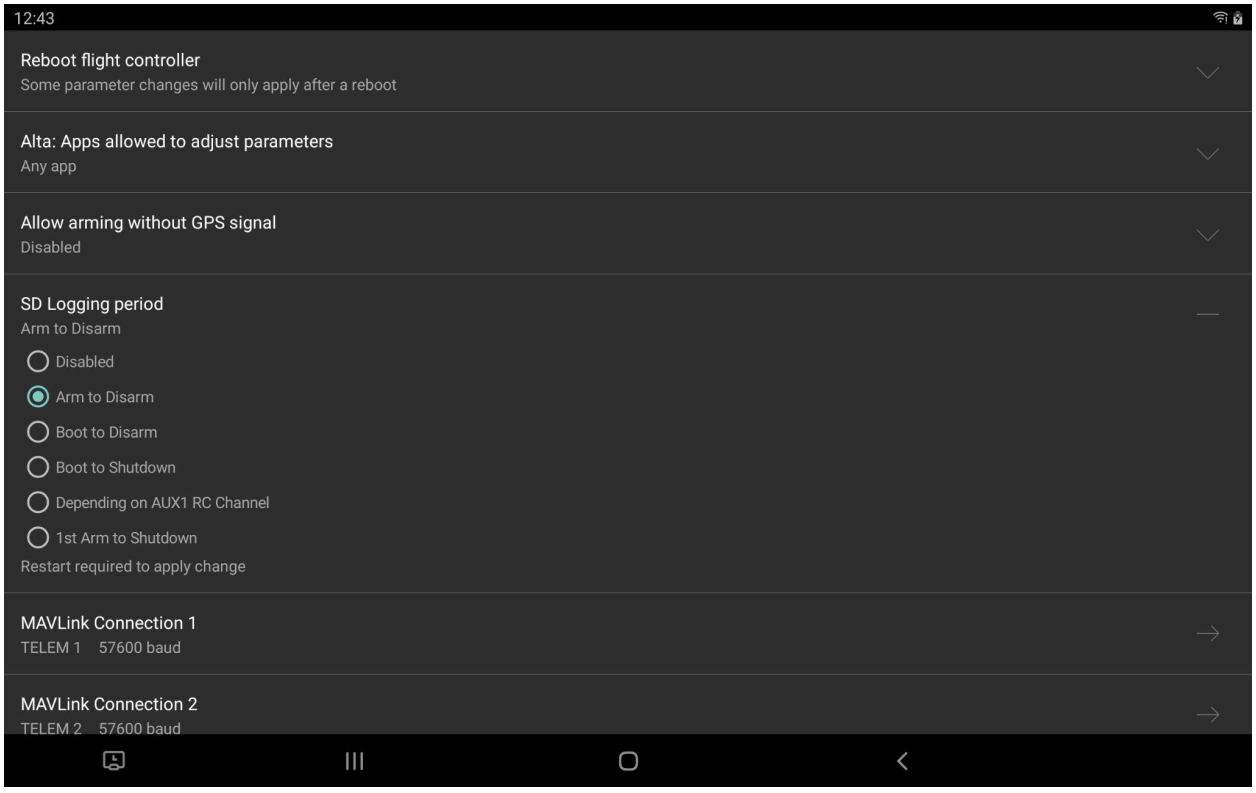
You may need to apply larger pitch/roll stick deflections to counteract the wind in altitude control mode than you're used to from position control mode. You can get some practice flying in altitude control mode by pressing the A button on the NW Blue controller, or by toggling the PAF switch on the DJI controller to position A.

Version 2.19.1

No new DJI version.

DJI users can stay on 2.19.0

Pixhawk version:



Added SD Logging period setting

This setting changes when the drone will start logging information to the SD Card. By default, this is from "Arm to Disarm", but you can change it to "Boot to Disarm" to log information about errors that occur before you fly. For example, if you're having GPS errors that prevent you from flying, changing this setting and sending us the .ulg file will help us diagnose the cause.

It can be found in Drone Setup->Advanced Configuration->Flight Controller Parameters->SD Logging period.

Bug fixes:

Fixed bug in which photos would be taken intermittently while running a mapping mission with the Ignis and Contrast app together.

Made it more likely that the Wiris Pro will stop taking interval photos after a mapping mission. (Sometimes the camera bugs out and ignores most of the command packets).

Fixed bug in which the NextVision camera would go all the way to -90 if you pitched the gimbal strongly downward in that direction.

Retuned NextVision control for even less glide after you release the virtual joystick or wheel, but sometimes a bit of snapback.

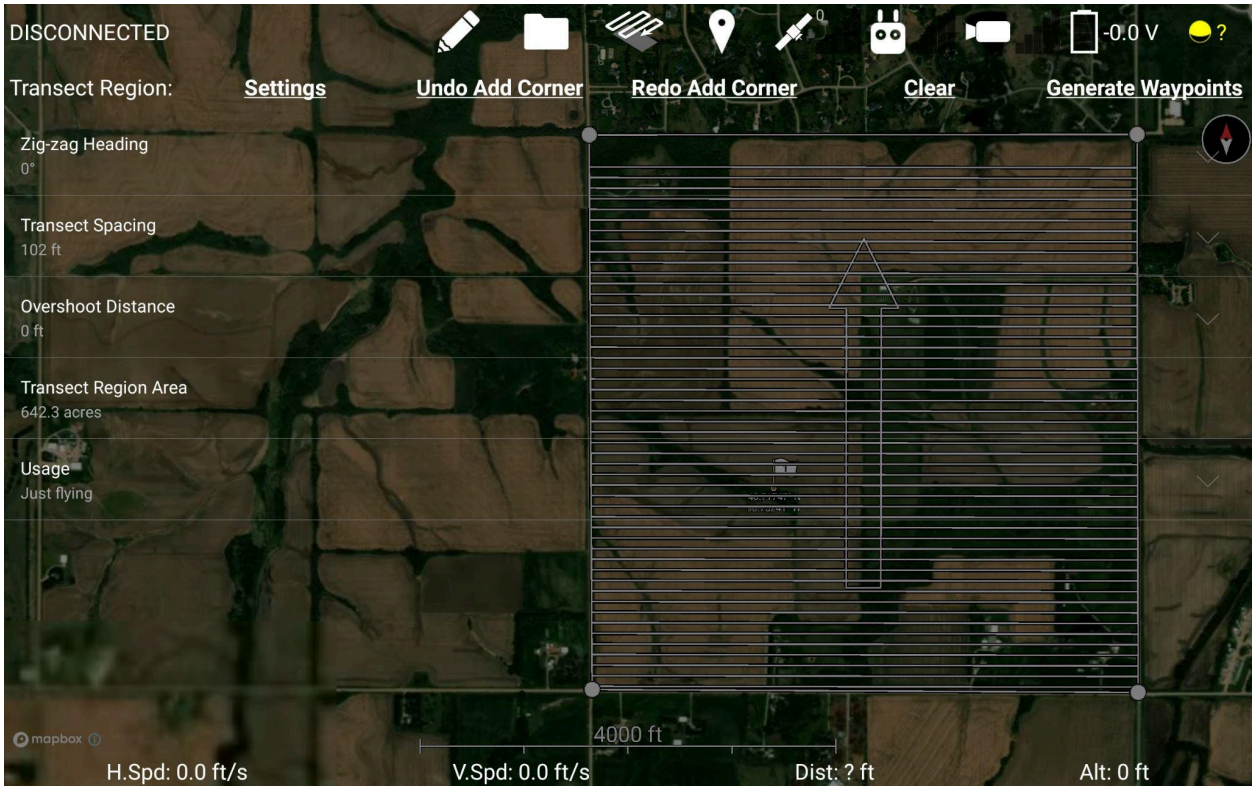
Fixed bug in which if you switched from the Sony a7R to the NextVision without restarting the app, the gimbal would move really slowly.

Version 2.19.0

All Versions:

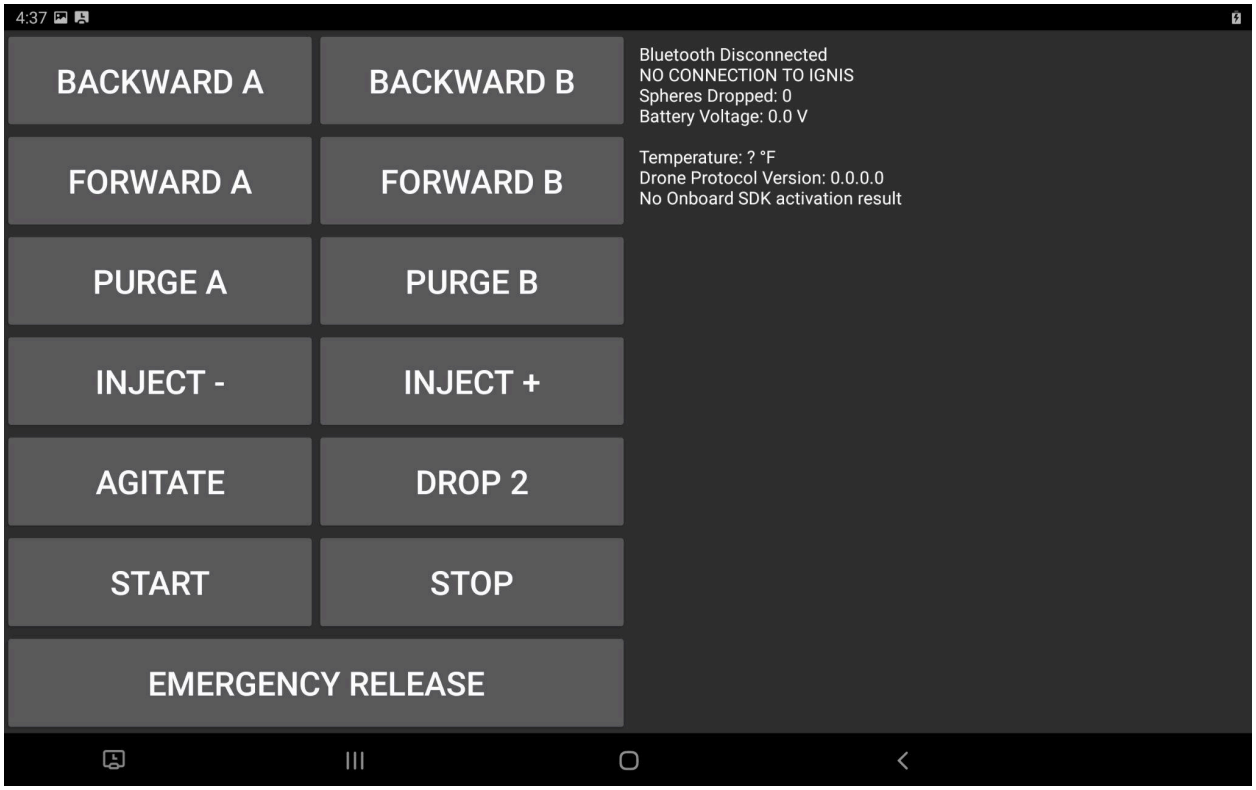
Transect region is now easier to see
Made the white lines a bit thicker and added a black outline.

Displays area of the transect region
Shown in hectares or acres depending on your units. The value is incorrect if the transect region's boundary crosses over itself, so don't do that.



Added Emergency Release button to Ignis Setup

Doesn't work if you're setting up an Ignis 1 via bluetooth.



Early implementation of user-inputted elevation data.
If you're flying above 60 degrees latitude or below -56 degrees latitude, the app will attempt to find and load a file called NoSrtmCoverage.bil.zip in the Drone Amplified\Elevation Maps\ folder and use that elevation data instead of the normal SRTM data. This allows you to use your own elevation data in locations where the app normally wouldn't have any coverage. You have to export your elevation data in the bil.zip format, name it NoSrtmCoverage.bil.zip, and put it in that folder. Additionally, the .bil file should be less than 100MB, and the data's X,Y, and Z coordinates should be in degrees of longitude, latitude, and meters respectively. Look at the SRTM elevation data in the Elevation Maps folder for an example of the format.

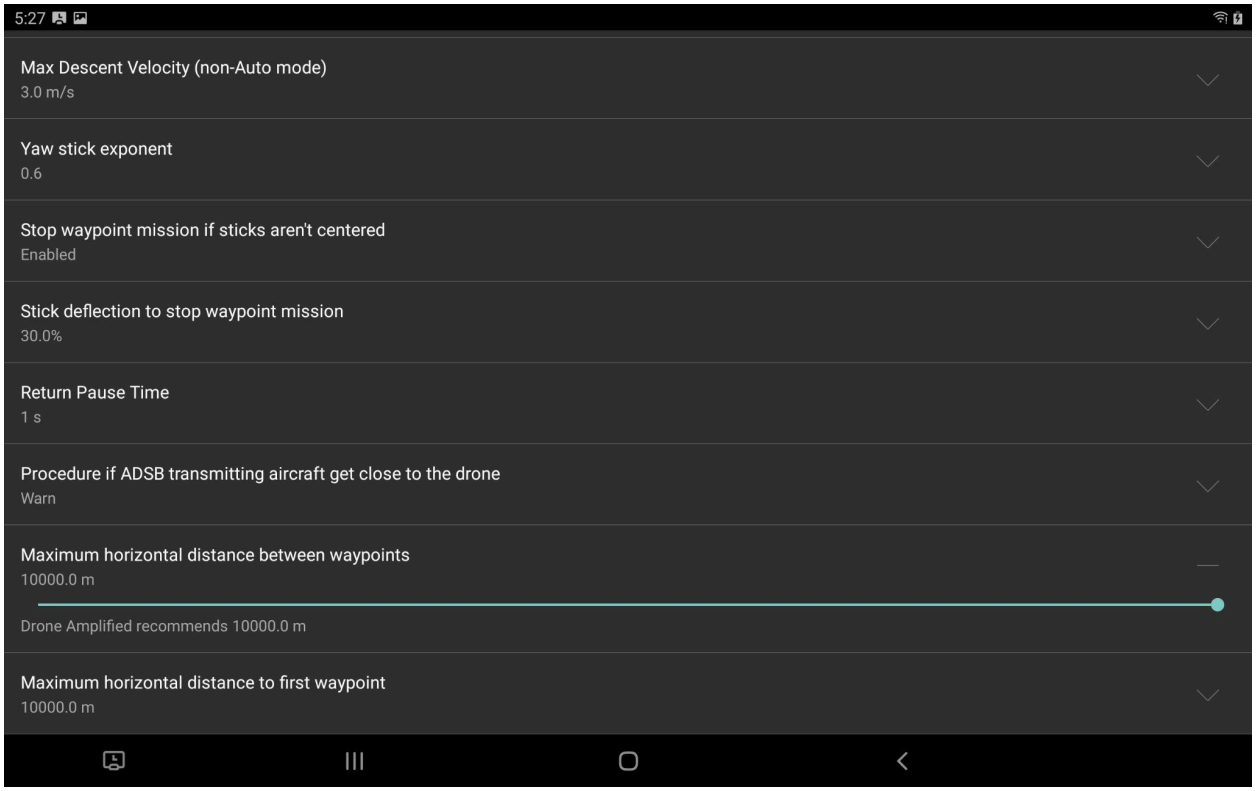
DJI Version:

Not updated on the Google Play Store
Download this version from our website at https://droneamplified.com/downloads/android/apks_for_dji/

Fixed a bug in which your interval photo period setting wouldn't get pushed to camera when you power-cycle the drone, causing it to default to 2 seconds.
This bug causes you to take more photos than you need to if you're doing a large mapping mission and have to change batteries in the middle of it.

Pixhawk Version:

Figured out a likely cause of the "Temporarily Rejected" error when uploading a waypoint mission.
If you try to upload a waypoint mission that has two consecutive waypoints that are more than 900 meters apart, the drone won't let you start it, and the app will show the "Temporarily Rejected" error message. 900 meters isn't very far, so this is a common error. This threshold is controlled by a parameter on the Alta X.



You can increase it by going to "Drone Setup"->"Advanced configuration"->"Flight Controller Parameters"->"Drone Amplified Alta X Setup" and adjusting the "Maximum horizontal distance between waypoints setting" and the "Maximum horizontal distance to first waypoint" sliders. I recommend maxing it out at 10 km.

Displays the most recent diagnostic message on the Fly screen for 5 seconds

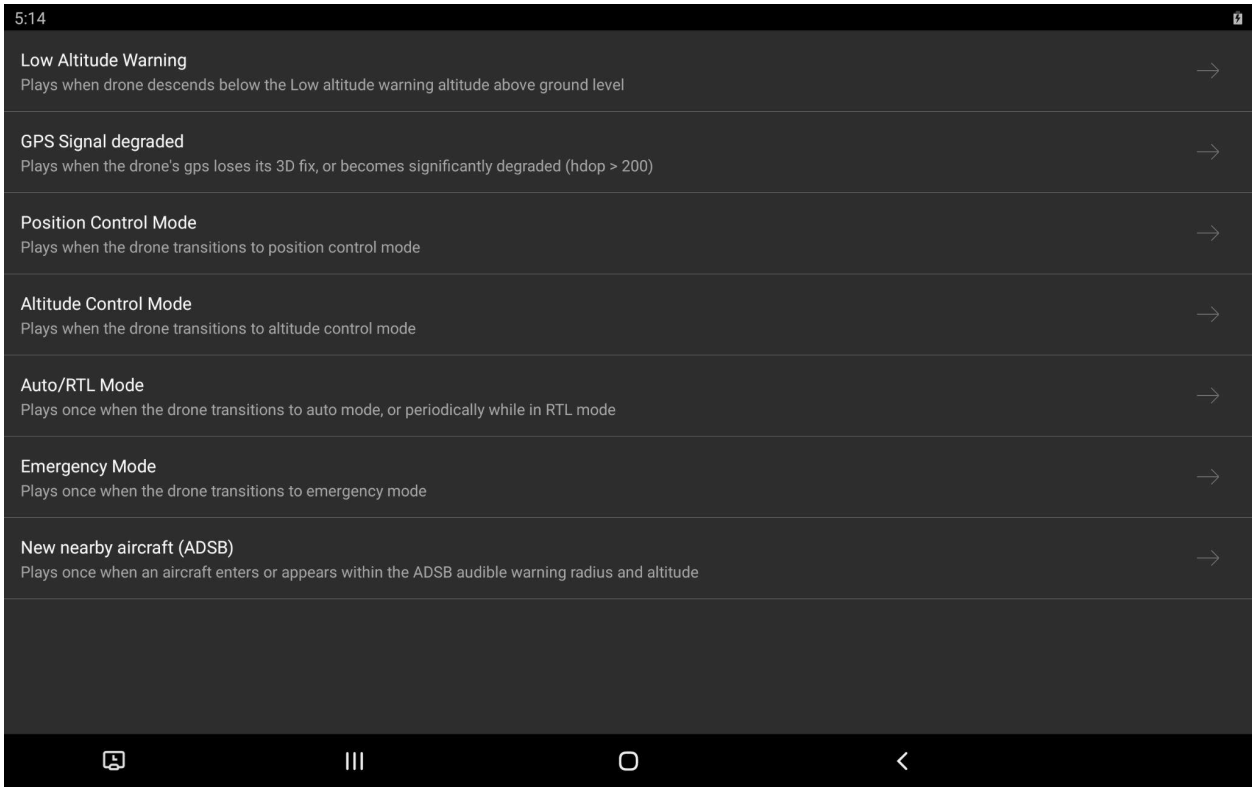
When the app receives a diagnostic message from the aircraft, it will display it on the Fly screen by the status for 5 seconds. You can still click the status to see the two most recent diagnostic messages.

Audible warning sound for nearby aircraft

The app will now make a beeping sound when the ADSB receiver detects a new aircraft has appeared within or entered a cylinder around the drone. You can customize the radius and maximum altitude of the cylinder in Settings.

Warning Sounds test screen

In Settings, you can now go to a screen that will let you play all the different sounds the app makes, so you can familiarize yourself with what they mean.



NW Blue Controller / Herelink RSSI display

Added a little number above the controller signal bars that displays the RSSI (Received Signal Strength Indicator) value in dBm reported by the radio. More negative is worse. In our observations, -60 is good, -150 is when you start to lose telemetry. But, we haven't done enough testing to know if the radios behave consistently, so you should make your own observations with your system.

The bars next to the controller in the app show the percentage of the flight controller's Mavlink packets that are making it to the app. This is helpful for detecting end-to-end communication problems, including ones caused by software problems, but it doesn't really drop off with range until you're at the limit.

Recently, the Astros got a new firmware that makes them emit a bunch of logging messages while they're flying, but these logging messages don't get sent over the radio, so the app thinks it's losing 50% of the packets, when it's really not. So, for the Astro, 50% bars is to be expected during flight, and you should use the RSSI value to detect radio link problems.

Implemented workaround for Gremsy Pixy U gimbal drifting problem.
The new Pixy U's don't actually move to the angle you tell them to. They end up slightly offset from it. The app used to start the setpoint for the gimbal's motion at the gimbal's current position, but this would cause it to offset itself again. So, every time you moved it, it would accumulate the offset again, and over time it would look like the gimbal drifts. Now it starts from the last setpoint, so the offset error doesn't accumulate. A side effect of this is that if you switch between controlling the gimbal through the Ignis app and the Contrast app, the gimbal will dramatically move to the new app's set point, because they aren't synchronized. But, I don't think people switch between them that often, so it's just a minor annoyance.

Fixed a bug in which the app would stop taking photos during mapping missions.
The app used to tell the camera to stop if it overshot the transect line, or if the flight controller became disconnected.

Fixed diagnostics logging
The diagnostics column in the flight log wasn't implemented in the Pixhawk app until now. The row will display all errors currently affecting the drone at that time, as well as any new diagnostic messages it has generated since the last row. In 2.18.3, errors and

diagnostics would appear in the flight mode column as they would on the fly screen, but that column is now purely the flight mode.

Display Astro's "Pending" mode, instead of "Unknown Mode"
The Astro uses a nonstandard "Pending" mode while it's starting up. The app previously displayed this as "Unknown Mode".

Improved NextVision gimbal control
Redesigned the control algorithm to switch between Local and Global modes, depending on which one will work best. Global mode has better stabilization, but bugs out when you try to look up. Additionally, the gimbal will now come to a stop faster when you stop controlling it.

Fixed Nextvision camera control through Contrast app
The Contrast app wasn't routing packets correctly if you were trying to control the Nextvision camera from a tablet, but now it works.

Displays NextVision camera temperature instead of TRIP temperature
The app was displaying the wrong temperature. The camera is the main thing at risk of overheating. I tested the Dragon Eye 2 in 88F weather, and it cooled down from 131F while in flight (131F is the temperature at which you risk damaging it). Don't leave it powered for long on the ground though, because it will get too hot if it doesn't have air flow across it.

Version 2.18.3

DJI Version:

No new DJI version
DJI users can stay on 2.17.0 or 2.18.2

Pixhawk Version:

Fixed bug in which the Contrast app wouldn't forward all of the packets to the Ignis app

The packet buffers in the Contrast app could only hold 10 packets at a time. These would fill up and drop packets before they would get emptied. I've increased the capacity to 30, and they no longer drop packets in my testing.

Contrast app no longer forwards duplicated flight controller packets to the Ignis app
The Nextvision TRIP duplicates and retransmits all of the flight controller's packets. This would confuse the Ignis app into thinking it was dropping packets because it would see out-of-order sequence numbers.

The "Nextvision IP Camera Config" button in Drone Setup now works when you're connected to the Contrast app.
It assumes the NextVision camera is at 192.168.144.203, which is the address that we're standardizing in our configuration.

Version 2.18.2

All Versions
Fixed the screen where you select the Drone Amplified folder so that you can see the OK button even on low-resolution displays, like on the Galaxy Tab A.

DJI Version:

Not updated on Google Play Store
To publish this version of the app on the Google Play Store, I would have to update the DJI SDK, and I don't want to have to test that and find all of the new bugs just for this minor release. So, if you want to get this version, you'll have to download the apk from our website.

Pixhawk Version:

Added Nextvision Dragoneye 2 Support
Modified the gimbal control to workaround a bug in the Dragoneye 2.
Added a NUC (Non-Uniformity correction) button to the app, so you can trigger one manually. The Dragoneye 2 seems to require this after startup and every few minutes, or the thermal image will "burn-in" and you'll see an afterimage when you pan.

Removed support for Pixy U Mavlink V2 Gimbal protocol
In 2.18.0 I added a complex workaround to support changes made in Pixy U firmware 7.7.0+. I've now learned how to fix the new Pixy U gimbal firmware so it controls like the older firmware. You have to connect it to GTune and change the gimbal's Herelink deadzone setting to 0.
We'll be doing this for all new gimbals we ship out, so you don't have to worry about it. There are a few customers who received gimbals with the new firmware before we discovered this fix, but we'll fix them at your training. This version removes the complex workaround in order to keep the code simple, so you'll need the GTune fix in order to use the new firmware Gimbals with this version of the app.

Improved Astro Mapping Kit gimbal control
The pitch limits work a lot better now

Version 2.18.1

No new DJI version
The only changes are for the Pixhawk app, so DJI users can stop reading and continue to use 2.17.0.

Pixhawk Version:

Fixed image capturing with Wiris Pro
2.18.0 would scramble the image file formats that your camera would save, every time you took a picture. It turns out the Wiris Pro has a bug that makes it read the sequence number of the message as the file formats it should save as. Added a workaround to the app to handle this.

Version 2.18.0

No new DJI version
The only changes are for the Pixhawk app, so DJI users can stop reading and continue to use 2.17.0.

Pixhawk Version:

Reminder to not update things if they aren't broken
Especially the Herelink Blue. The process to update the ground station and air unit isn't straightforward, and if you don't do it correctly, they won't communicate anymore. The process to do it correctly is described here: https://docs.nwblue.com/nw-blue/products/herelink-blue/user-guides/how-to-update-firmware#ota-online-firmware-upgrade-via-wifi

Added support for Astro Mapping Kit with Sony α7R camera.
Added gimbal control, shooting photo and video, and interval photos for mapping missions. Other controls are not yet implemented, so you'll have to use AMC to adjust exposure if you need to.

Astro Mapping Kit Bug 1: Switching between photo and video mode with this camera takes literally 10 seconds. Be patient.

Astro Mapping Kit Bug 2: On the camera I was developing with, I needed to switch to video mode and back to photo mode every time I powered it on in order for the camera to actually take pictures. This might be a problem with just my Astro, but you should test yours to make sure you don't have this problem too.

Astro Mapping Kit Bug 3: The camera's interval photos are not very precisely timed. I tried a mapping mission with a 2 second photo interval, but the photos were sporadically captured 1 - 3 seconds apart. I'd recommend planning a slower mapping mission with a longer photo interval so the error isn't a dominant part of the timing.

Astro Mapping Kit Bug 4: In the app you'll see a value for the space remaining in the USB stick and the space remaining in the SD card, but they both display the space remaining in the USB stick.

Added support for Gremsy Pixy U gimbals with firmware version 7.7.1
Gremsy's new Pixy U's can't be downgraded to the good firmware version anymore (7.5.6) due to microchip changes, so I had to add support for their latest firmware version, 7.7.1.

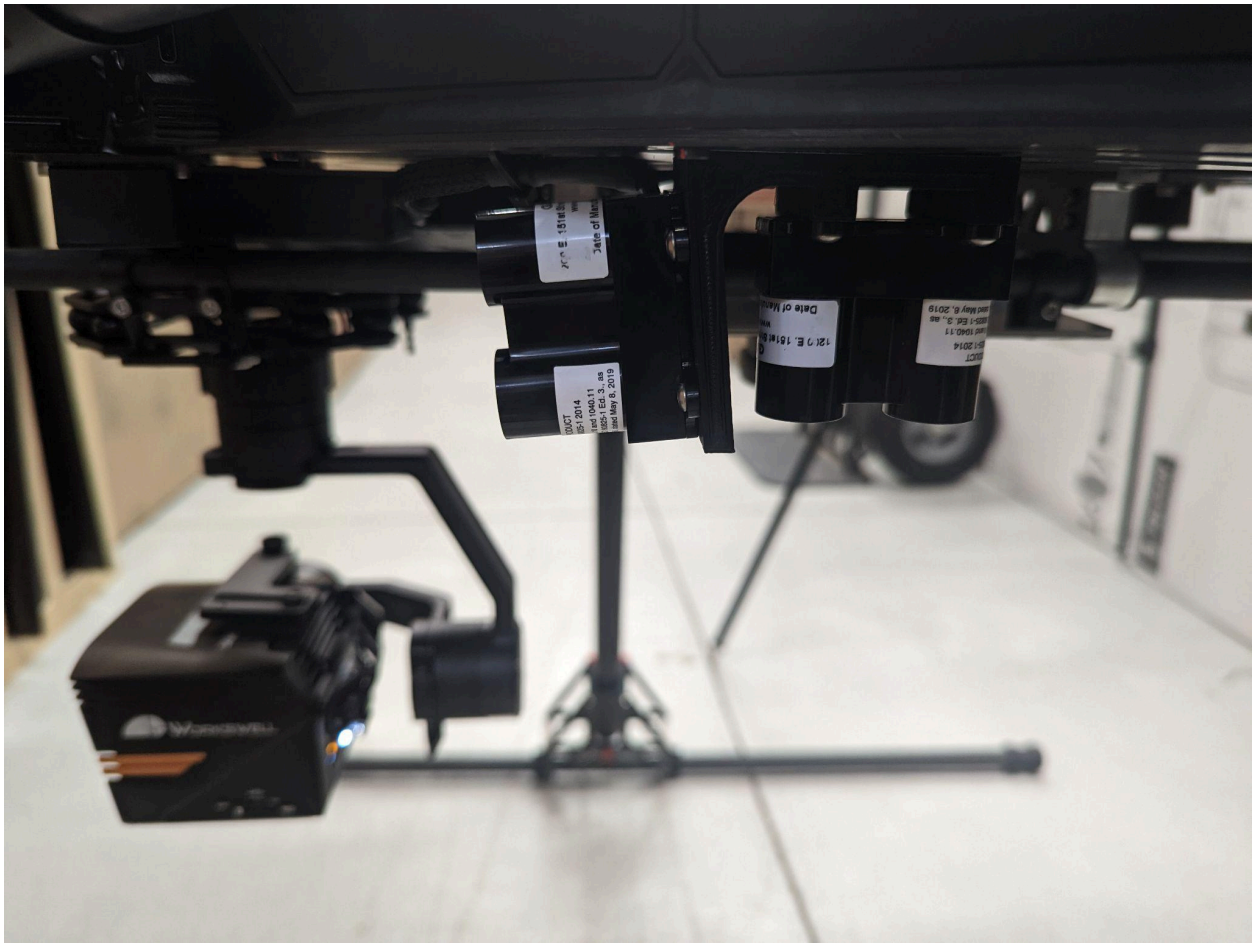
Pixy U Bug 1: The gimbal doesn't behave correctly when the app automatically points the gimbal downward when you start a mapping mission. So, I've disabled that behavior when

the app detects this firmware version, and you'll have to use your finger to point it downward.

Pixy U Bug 2: There's a gimbal bug that makes it move really jerkily when you yaw the drone after you've moved it using the app. You won't really notice it in the video stream, but it'll probably look bad in whatever video you record.

I've contacted Gremsy about these issues. We'll let you know when they release a firmware that's worth updating to to fix these issues.

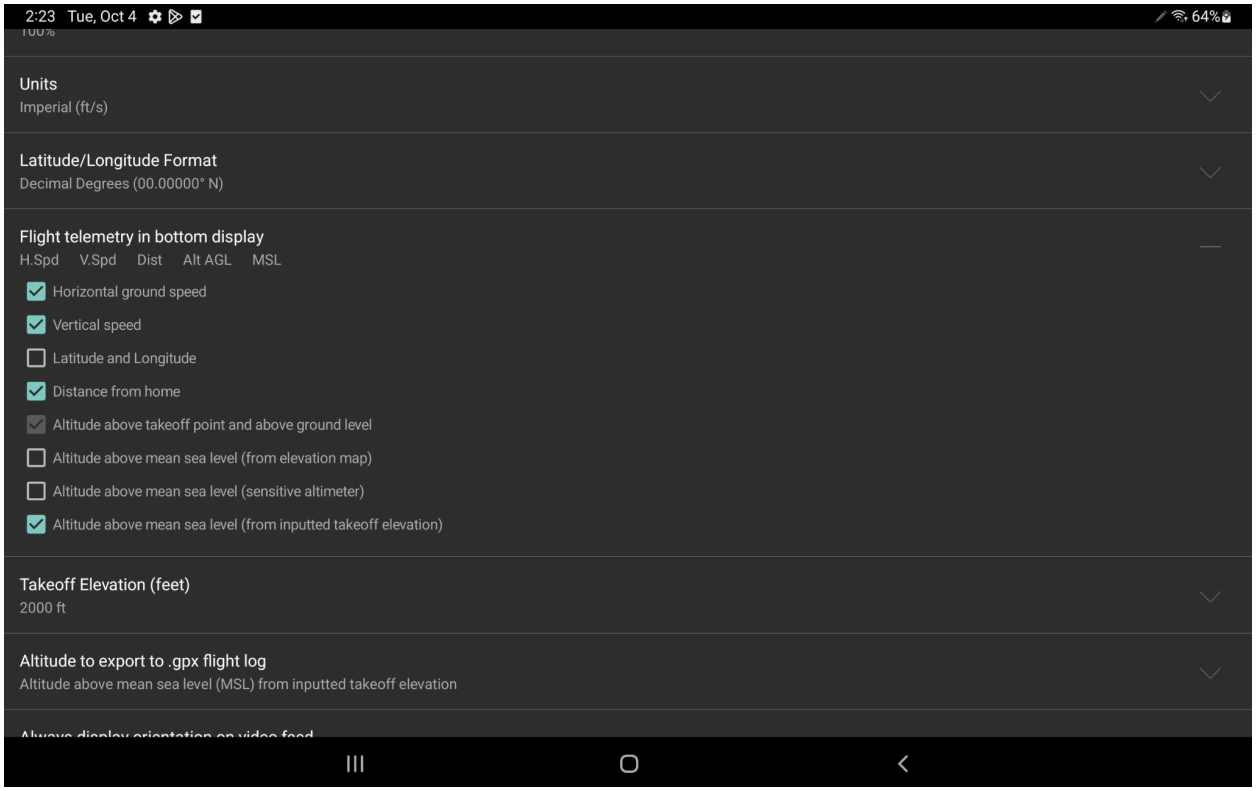
Added support for a Drone Amplified laser range finders attachment
We made a little rangefinder module that can be attached to an Alta. It has forward and downward rangefinders so you can measure your actual distance from the tree canopy. These distances will be displayed in the app while you fly. Let us know if you're interested in this.



Version 2.17.0

DJI and Pixhawk Versions:

- Added Altitude above mean sea level (from inputted takeoff elevation) option to the telemetry you can display along the bottom of the screen while you're flying.



When you check this option, an additional "Takeoff Elevation" row will appear where you can input the elevation of the takeoff location above Mean Sea Level. Changing the Units setting from Metric to Imperial will change the input units of this row from meters to feet.

While you fly, the app will add the drone's altitude above the takeoff location to this number and display that to you.

The purpose of this option is to help maintain separation between the drone and manned aircraft operating in the area. The sensitive altimeter option was supposed to perform this role, but the barometer on the Alta X isn't very accurate, and the Matrice 600 has a bug

that makes it stop reporting pressure readings after one flight. So instead, you should download an altimeter app for your phone, and measure the pressure altitude of the takeoff location with your phone, and then input that into this Takeoff Elevation row on the app.

This won't exactly match what the manned aircraft are reading because the manned aircraft's altitude is estimated purely from the barometric pressure, and the Alta X's altitude is estimated from the barometric pressure, GPS, and motion of the IMU. However, the difference should be insignificant because you're synchronizing them at the takeoff elevation, and it should definitely be better than using the sensitive altimeter option with an inaccurate Alta X barometer.

This altitude will also be recorded in the flight log files, and is an altitude option for converting them to GPX.

- Added Mapbox copyright attribution to maps.
Mapbox's SDK used to automatically add this, but it bugged out I guess, so now I have to manually do it.

Pixhawk Version:

- Added support for NextVision gimballed thermal cameras.
https://www.nextvision-sys.com

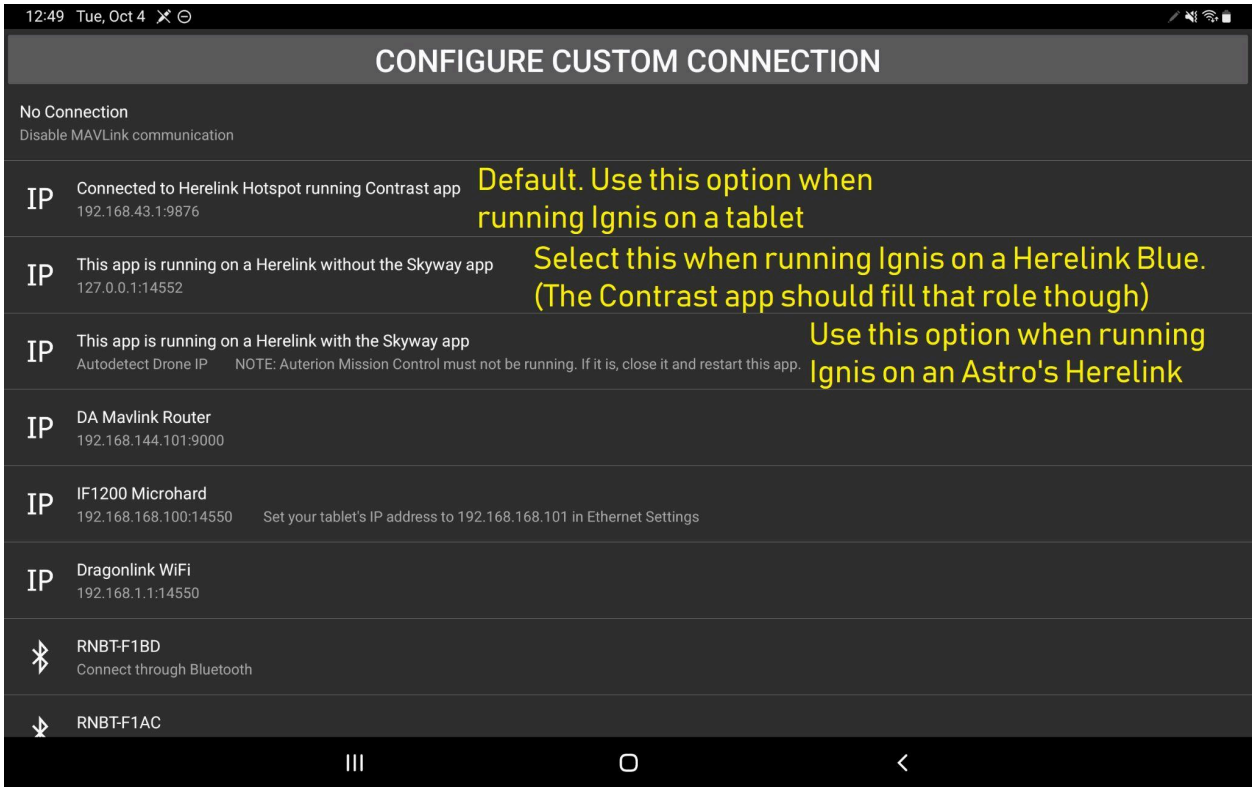
So far this includes:

- Video streaming directly from the camera (Substantially more reliable than the Herelink's HDMI to RTSP)
- Gimbal pitch control, Pitch & Roll stabilization, and orientation feedback,
- Toggle Visible / Thermal feed. (There's no Picture in Picture mode)
- Zoom In/Out, FOV feedback,
- Shooting photos / Record Video / Interval photos for mapping, and state feedback
- Geotagging images
- Link to camera configuration web page from the app.
- Display SD card free space
- Display internal temperature. (This camera doesn't have any cooling fan, so if it's powered on the ground for too long it'll overheat and potentially damage itself. In flight it stays cool enough.)

We want to do a bit more testing of different models before we offer these as an alternative to the Wiris Pro, but the support is now in the app. We are excited for these as they are substantially lighter than a Pixy U + Wiris Pro, which should help the system stay under the 55 pound classification.

The Contrast app now has HDMI and NextVision options when you touch the video feed bars. Make sure you don't accidentally select NextVision when you're using it with the Wiris Pro, or you'll have to switch back to get video.

- Added support for new Astro Herelink firmware.
The latest Astro herelink firmware installs a "Skyway" app on the controller that changes how the Ignis app should connect to the drone. So, now there's some new Mavlink Connection options. The descriptions should be self-explanatory, but here's an image:



-Added Camera storage free space to the display while flying.
Sometimes the Wiris Pro bugs out and doesn't actually save the video you're recording. We don't know why. To fix it, you have to reformat the SSD. But, now you can watch the free space tick down and know that your video is actually being saved. Unfortunately, due

to another bug, the Wiris Pro doesn't report its SD card free space, so all I can display is the Solid State Drive's (SSD) storage space. So, maybe save your images there instead of the SD card so you can be sure your images are getting saved as well.

-Forbid starting waypoint missions when the drone isn't flying.
This way the drone won't take off if you accidentally hit the start button while it's on the ground.

-Added interval photo support for the Wiris Pro
I forgot to implement this. Now you can use it for mapping missions with our app.

-Toggle battery display between Percentage and Voltage
Just touch the battery percentage at the top to display battery voltage instead. Touch it again to switch back.

-Increased timeout after uploading a waypoint mission from 3 seconds to 5 seconds.
The drone validates the waypoint missions it receives before it allows the app to switch it to Auto mode, but this can take an unknown amount of time. During this time, you might

see a temporarily rejected error when the app attempts the switch to Auto mode. This increase of the timeout might help people who get this error and can't fly waypoint missions.

Version 2.16.1

All Versions:
- Fixed elevation map download progress not being displayed

- Fixed the Offline Maps menu being excruciatingly slow when there's a lot of files in your Elevation Maps folder

- Automatically deletes duplicate elevation maps files

DJI Version:
- Fixed some DJI bugs that would cause the app to crash on Android 12

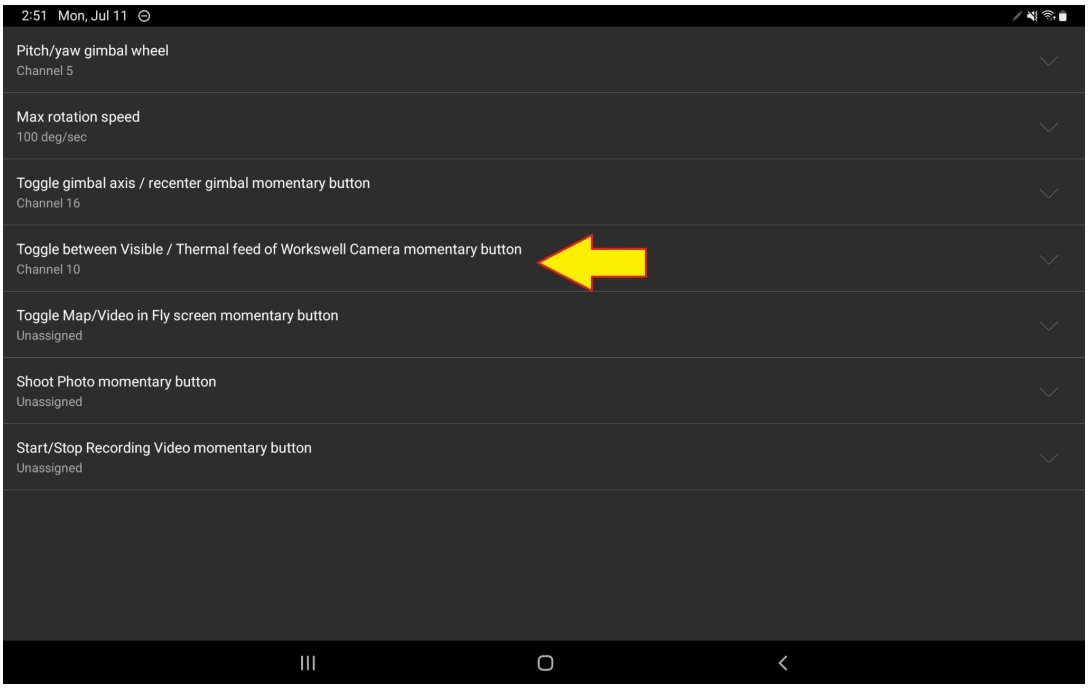
Pixhawk Version:
- Changed the default expected channel for the D button on the Herelink to be Channel 10 so that it works with the Astro's Herelink without having to rebind the Astro's Herelink buttons. Previously we've been setting up Alta X's to have the D button bound to Channel 8. Future Alta X's that come through us will be configured to have the D button bound to Channel 10.

IMPORTANT INFO FOR CURRENT ALTA X USERS
Your D button will not work in this new or future versions of the app unless you make the following changes:

Launch the UnionRobotics Settings app, go to the Buttons tab, change the D button to operate on Channel 10, and press the Save button to apply this change. Be careful that you don't accidentally change anything else with the touchscreen.

Next, go into the Ignis Pixhawk app, go to "Drone Setup", then "Advanced Configuration", then "App control via RC channels", and change "Toggle between Visible/ Thermal feed of Workswell Camera momentary button" to Channel 10.

See the settings pointed to by the arrows in the following images



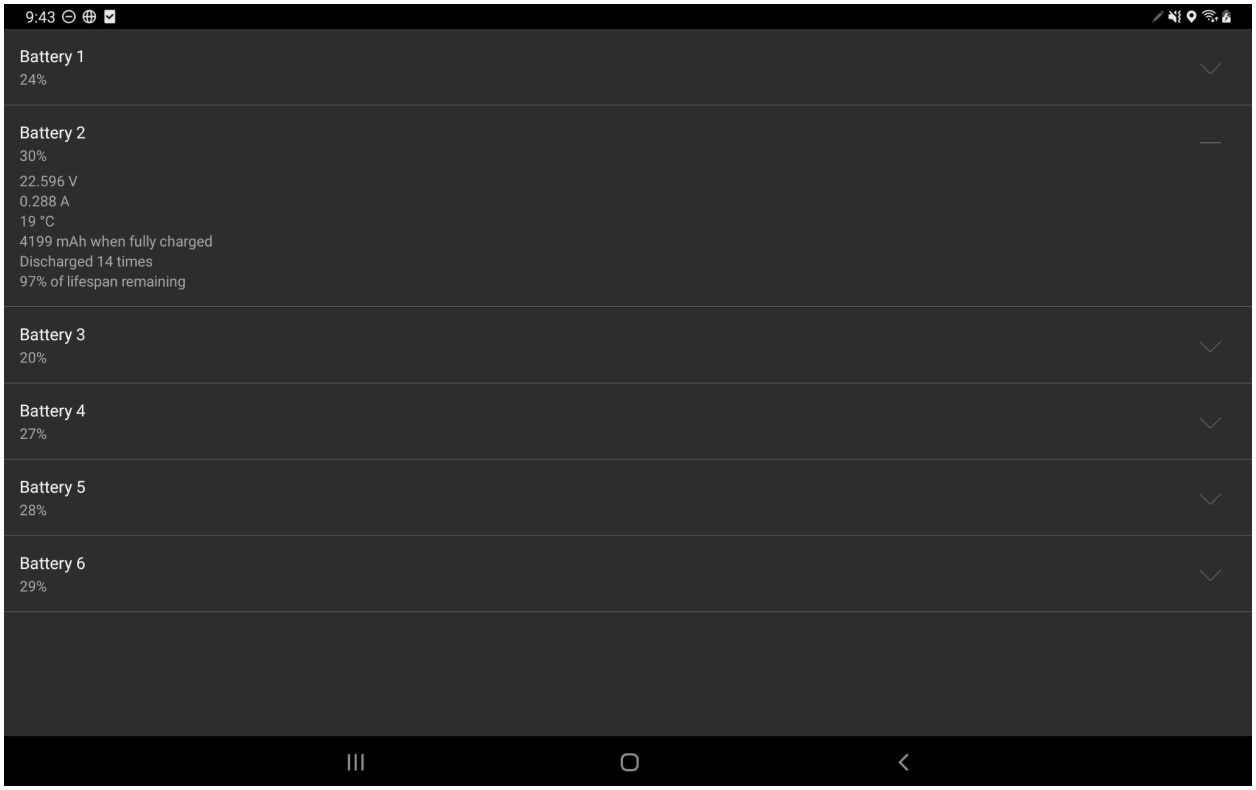
- Fixed a bug in which the app would drop lots of RTP video packets when the processor is busy.

- Worked around an Astro bug in which it would drop commands for the Wiris Pro. It drops commands that arrive nearly simultaneously so the app now desynchronizes the timing of when it issues commands for the camera.

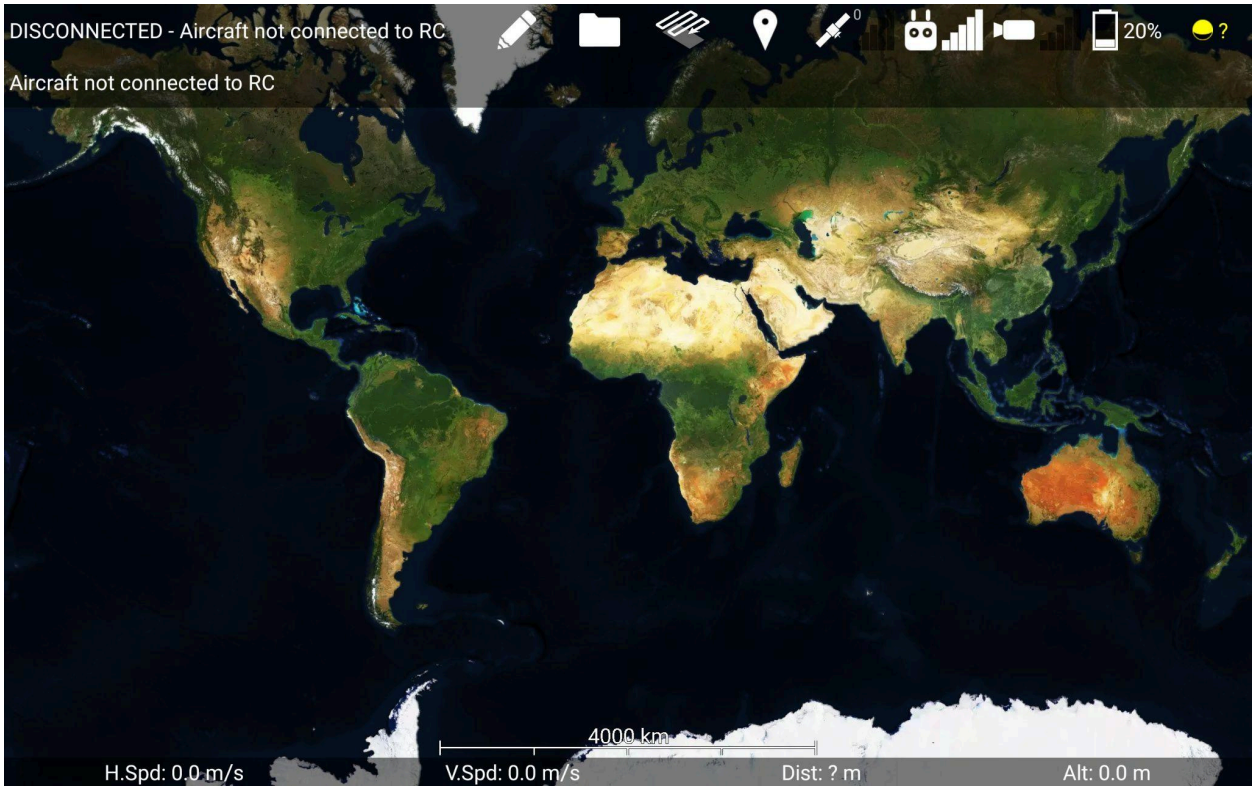
- Configuring your own custom MAVLink UDP or TCP connection now allows you to select which port you want the app to operate on. Some drones expect the app to operate on a particular port.

Version 2.16.0

DJI Version:
- Added a "Battery Info" section to Drone Setup, which shows information about each battery connected to the drone. Use this to figure out which batteries are nearing end-of-life and should be replaced.



- Added a diagnostic display to the Fly screen. Touch the status in the top left to view up to two diagnostic messages. If there is only one, it will also be displayed after the status in the top left.



Pixhawk Version:
Reduced processor usage, which helps prevent the Herelink from overheating.

Added preliminary support for Arducopter-based flight controller firmwares, including the Vision Aerial Switchblade. As such, the app will now be called "Ignis Pixhawk" instead of "Ignis Px4". In total, this Arducopter support includes:
- Automatically detecting whether the app is connected to an Arducopter or Px4 drone
- Telemetry feedback for Arducopter-based drones.
- Tricopter icon for Switchblade
- RTL through app with Arducopter
- Waypoint missions with Arducopter (including setting cruise speed. Drone heading is not configurable).
- Control gimbal when relaying messages through Arducopter flight controller
- Initiating a compass calibration (The progress visualization is currently incorrect, and wouldn't be very helpful even if it were correct. Ignore it.)
- Setting RTL altitude and speed
- Setting lost link and low battery procedures and thresholds

- Some advanced flight controller settings (arming checks, flight mode switch settings, serial port settings)

Auto takeoff and Auto landing are the most notable things that don't currently work. Implementing them is annoying to do with Arducopter, but I might do it in the future.

Version 2.15.3

All Versions:
- Automatically disarm Ignis when the drone is in the Return to Home mode. You'll see "DISARMED DUE TO INVALID FLIGHT MODE" in Ignis's display in the app when this happens.
- Fixed exported GPX flight log files having the incorrect MIME type, which would prevent Avenza from recognizing them, and would generate them with the .gpx.xml extension.

DJI Version:
- Added an option to disable the Mavic's Landing Protection "feature" in Drone Setup. This prevents you from landing (even manually!) unless you press a button in the app. But, when this system fails, you can't land your drone.
- The Landing confirmation menu is now forced to stay visible for at least 3 seconds when the Mavic thinks landing confirmation is needed. I couldn't replicate the issue to see if this actually helps though.

Px4 Version:
- Removed and renamed some settings and options in Drone Setup to make it simpler.
- Removed Arm Motors button from Fly screen.
- Fixed a bug that would crash the app when viewing the Flight Controller parameters of a Freefly Astro.

Version 2.15.2

Px4 Version:

Removed Terminate and Lockdown options from the Automated procedures settings. Both of these options crash the drone, and I'm not sure why anyone would want that behavior.

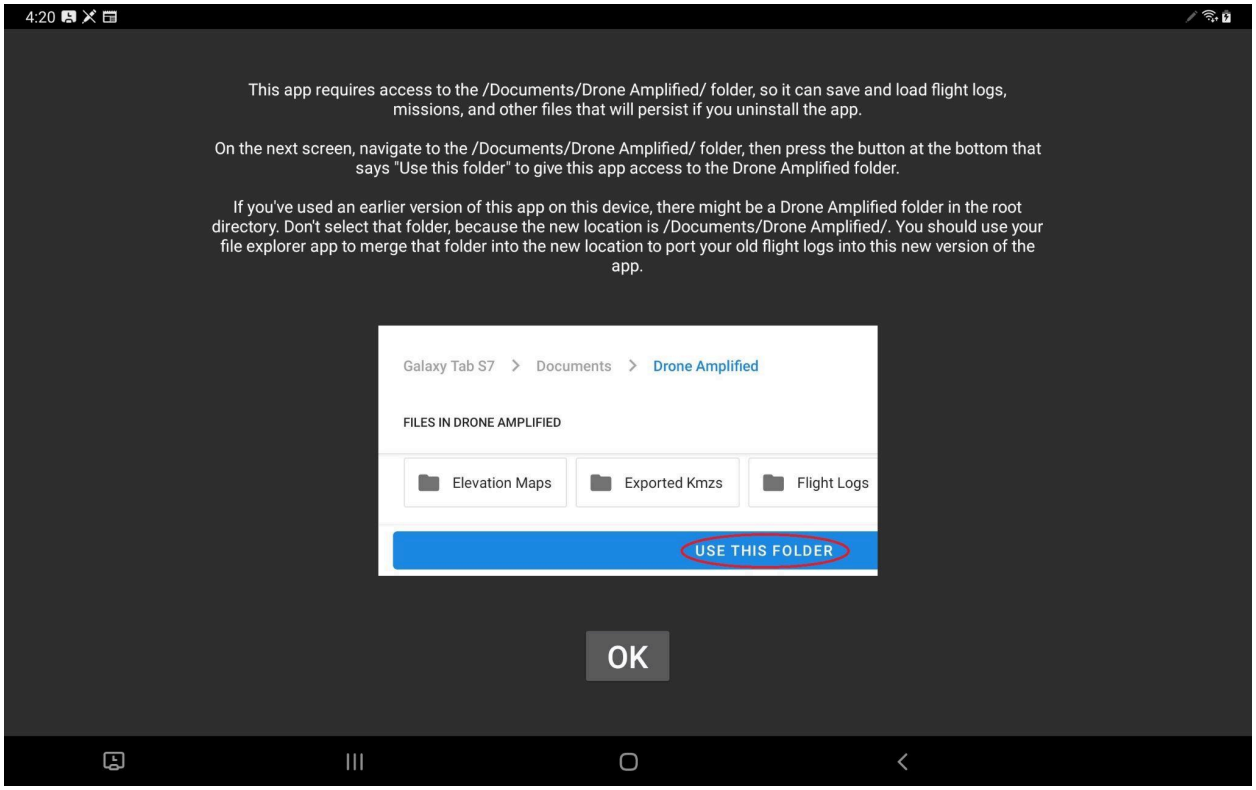
Bug Fixes:
Fixed renaming missions not working
Government Edition: Fixed a crash on startup on old versions of Android (like 7.1.1)

Version 2.15.1

Important:
If you're using the general purpose DJI version of the Ignis app with a Samsung Galaxy Tab S7 (the tablet we've been recommending), you'll want to update to this version soon. This version includes a fix for a DJI bug that would make the app crash on startup when your Tab S7 automatically updates to Android 12.

File system changes:
This version now uses Android's new filesystem API to comply with Google Play Store restrictions. This limits the app to only being able to access files on the device that the user gives it explicit permission to access.

When you install future versions of the app, you might see a new screen on the app that looks like this:



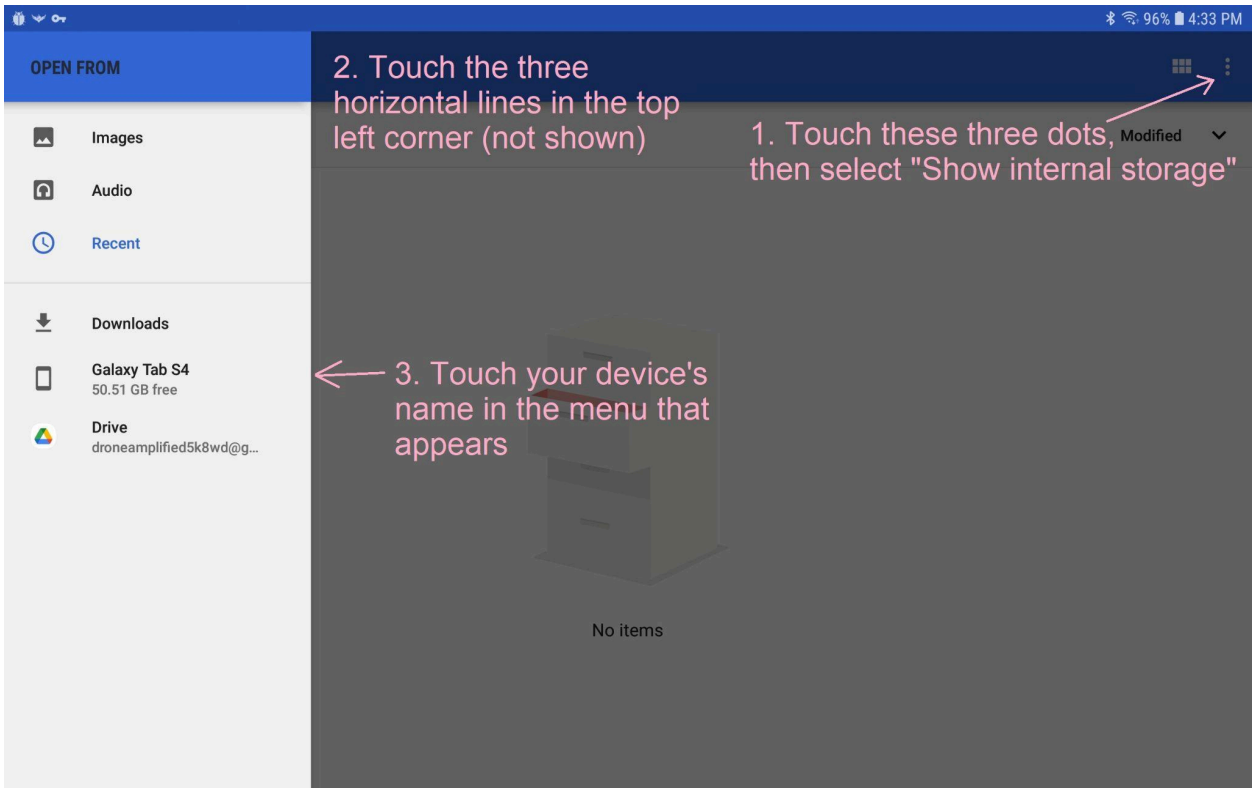
Instructions to give the app permission to access the Drone Amplified folder

Just follow the instructions to give the app permission to access the Drone Amplified folder. There's an animated slideshow that shows all the buttons you need to press. You only need to do this once. If you don't do it correctly, just restart the app and it'll prompt you to do it again.

On devices running Android version 10 or newer, the Drone Amplified folder will now be located inside the Documents folder. If you want to carry your missions, overlays, and flight logs forward into this new version, you'll need to use your file explorer app to manually move the Drone Amplified folder from "Internal Storage/Drone Amplified" to "Internal Storage/Documents/Drone Amplified". Users of the government edition app don't need to worry about this, because that version doesn't work on 10+ anyways.

Additionally, importing Kmz and Georeferenced pdf files into the app now uses Android's file picker, instead of the one I made. Android's file picker is a lot more confusing, and looks different depending on what version of Android you're running.

On Android 9 or earlier, you need to touch three dots in the top right corner and select “Show internal storage”, then touch the three horizontal lines in the top left corner, and click on the option for your device. Now you’ll be able to see your Internal Storage directory, and you can navigate to your overlay file from there.



Android 8’s file picker is very confusing

An advantage of using Android’s file picker is that you can now pick files from online sources, like Google Drive (as shown in the image above), and Android will automatically download and open them for the app. This probably works with OneDrive and Dropbox also, but I haven’t tested those personally. It should work with anything that shows up as an option in that menu.

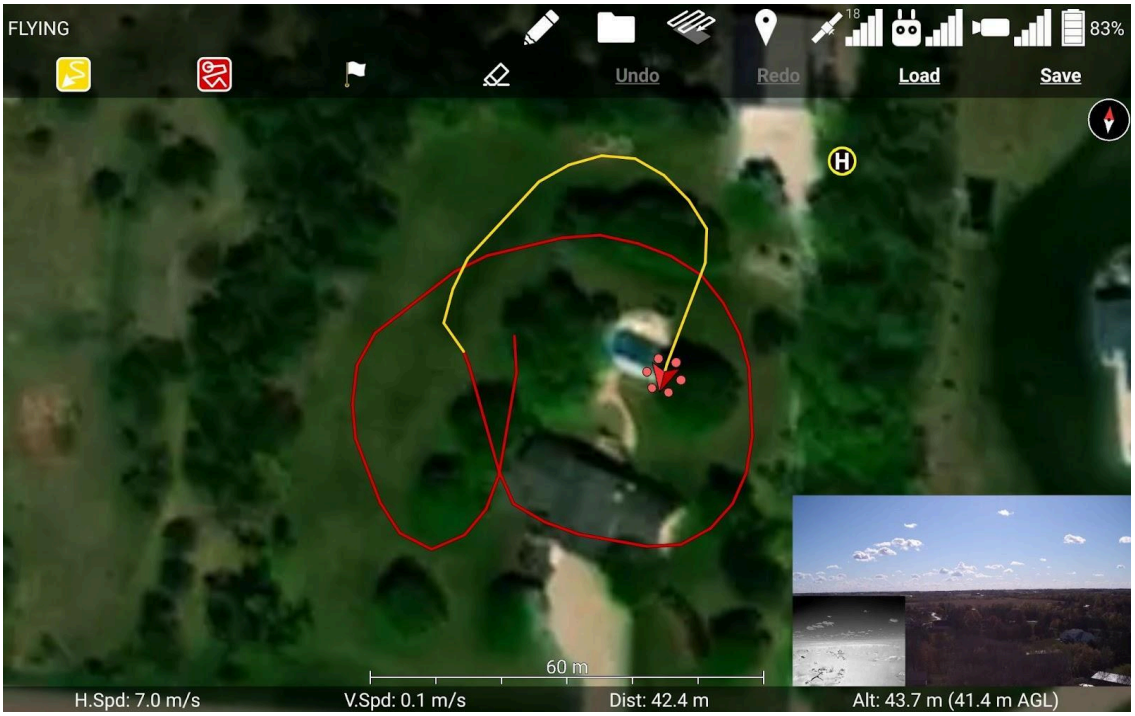
Bug Fixes:
-DJI: Updated to SDK version 4.16, which fixed a crash on startup on Tab S7’s running Android 12.
-Fixed a bug in the kmz parser in which triangular polygons weren’t imported.
-Improved the compatibility of the kmz parser by handling the gx:CascadingStyle element

-Fixed a bug in the kmz parser in which the thumbnail icons didn't cover the full extent of the overlay.
-Reversed the order of which lines get drawn on top of which in imported kmz files. Turns out I had it backward.
-Added an error message when Android bugs out when pairing to Ignis
-PX4: Increased timeout before reattempting RTSP reconnection. This fixes a problem that occurs when the camera's HDMI cable is plugged in after powering on the drone, which prevents the video stream from working. Hopefully this reduces the amount of powercycling you have to do to get the video stream to work.
-PX4: Video feed HUD now supports other screen layouts of the Wiris Pro besides Security
-PX4: Fix Contrast app having inverted gimbal axes when used by itself.
-PX4: App periodically requests the flight controller's firmware version so it'll be able to log it when you take off.
-PX4: Fixed flight logs having a bunch of nul characters after the camera's name in the header row.

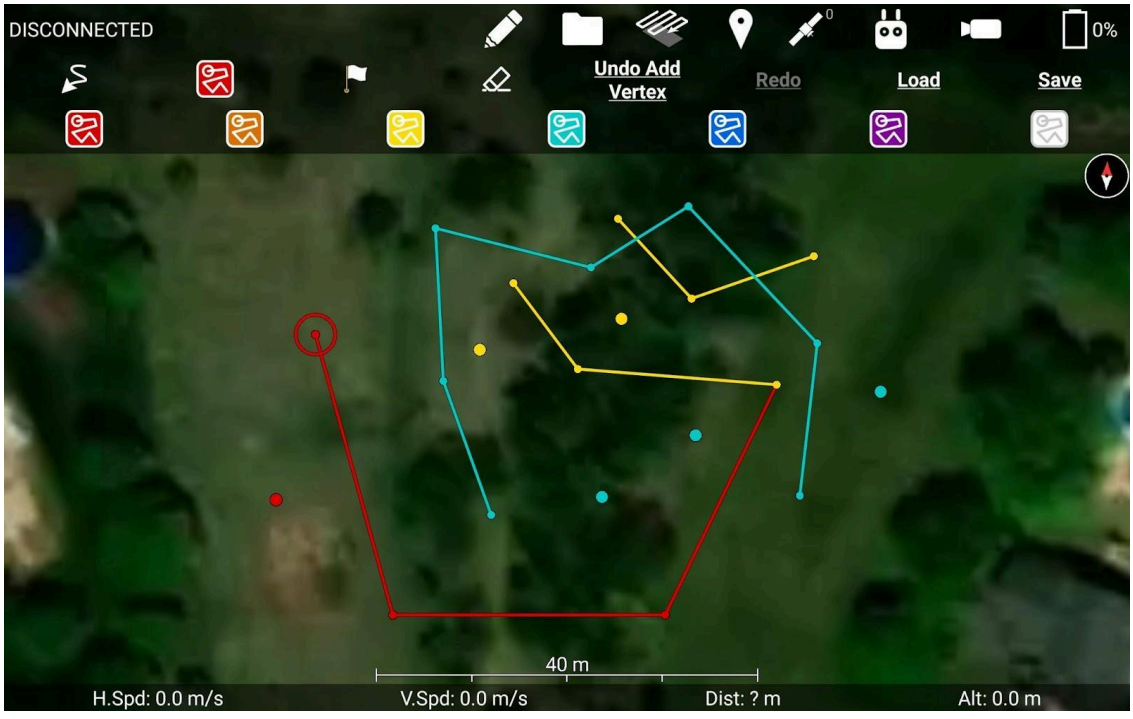
Users of the PX4 version:
The video feed bug fix is pretty important. Make sure to update both the Ignis Px4 app on the tablet and the Contrast Px4 app on the herelink (and the Ignis Px4 app on the Herelink if you want it there too).

Version 2.15.0

Make map annotations in our app and save them as KMZ files
There's a new pencil icon at the top of the Fly screen which gives you tools to draw lines and place markers on the map. Export them as kmz files to share them with others.



Make lines by flying the drone!



Make lines and dots by hand!

Easily mark and enumerate spot fires, smoke, and more! Let us know if you have any ideas for other markers that would be useful to you. See section 7.16 in the manual for the full instructions.

The apks for the DJI versions of our app have moved to a different folder on the downloads page of our website.
https://droneamplified.com/downloads/android/apks_for_dji/
The privacy enhanced folder was renamed to government edition.
If you had links to these, you'll want to update them to the new url.

The apks for the Pixhawk 4 version of our app are now available on the downloads page of our website.
https://droneamplified.com/downloads/android/apks_for_pixhawk_4/
We haven't finished writing the manual for this version of the app, so this release note is primarily for the people who we've trained on its usage, to let you know where to find updated apks.

Added some new fields to the flight log files
- Flying along active segment of waypoint mission: indicates the parts of the flight where Ignis was supposed to be dropping.
- Video Timestamp (s): Will be useful for synchronizing recorded video with the flight log.

Fixed some bugs in the kmz parser
- Lines that have multiple styles (e.g. normal and highlighted) are now parsed correctly, and the normal style is used. They used to just default to thin white lines.
- Marker icons that are referenced by URL's (e.g. Avenza and Google Maps pins) are now downloaded and used. Make sure to add the kmz file as a map overlay while you have an internet connection, otherwise the app won't be able to download the icon.
- Marker icons are now scaled correctly when imported. However, due to the high pixel density of most tablets' and phones' screens, the icons may appear smaller in the app than they do on your computer monitor. You can use the Kmz/Kml overlay icon scale slider in the settings to make them bigger.

Version 2.14.1

Fixed a bug in which previously dropped ignition spheres wouldn't show up until you connected Ignis

Fixed not being able to view the manual in the app
Our app will now check our website for updated versions of the manual, and then automatically download a local copy so you can view it offline. Made a built-in pdf viewer for the manual.

Version 2.14.0

Automatic waypoint mission altitude check
If you accidentally design a mission that flies into a mountain, this will catch that before you upload it. You can still upload the mission if you really want to by acknowledging all of the warnings.

Automatically saves a log of each uploaded waypoint mission
In case the waypoint bug happens again, this will help narrow down the cause

Added flight controller mode and diagnostic messages to flight log file
These are the main pieces of information you needed to look at the DJI log files for

Flight log for in progress flight is temporarily named with the extension ".in_progress.csv"
If you use the Drone Logbook app, this will help them automatically scan flight logs generated by our app.

Fixed a bug in which the drone would go to the wrong altitudes during a waypoint mission if you uploaded the mission on the ground while the home location was at a different elevation.
This could happen if you took off from a higher elevation, then landed at a lower elevation, and then uploaded a waypoint mission. The drone's altitudes would be offset from the programmed altitude by the difference in elevation between the two takeoff locations. This is not the waypoints bug I emailed about earlier, because that could occur even if the waypoint mission was uploaded mid air.

Fixed bug in which waypoints would get unsnapped when the snap altitude slider was dragged all the way down to 0

Fixed a bug preventing some pdf files from parsing correctly

Low and Critical battery threshold sliders have the correct min and max limits

Fixed flight controller serial number displaying flight controller firmware version

Hitting enter while inputting a name for the drone or remote controller will now close the keyboard

Version 2.13.1

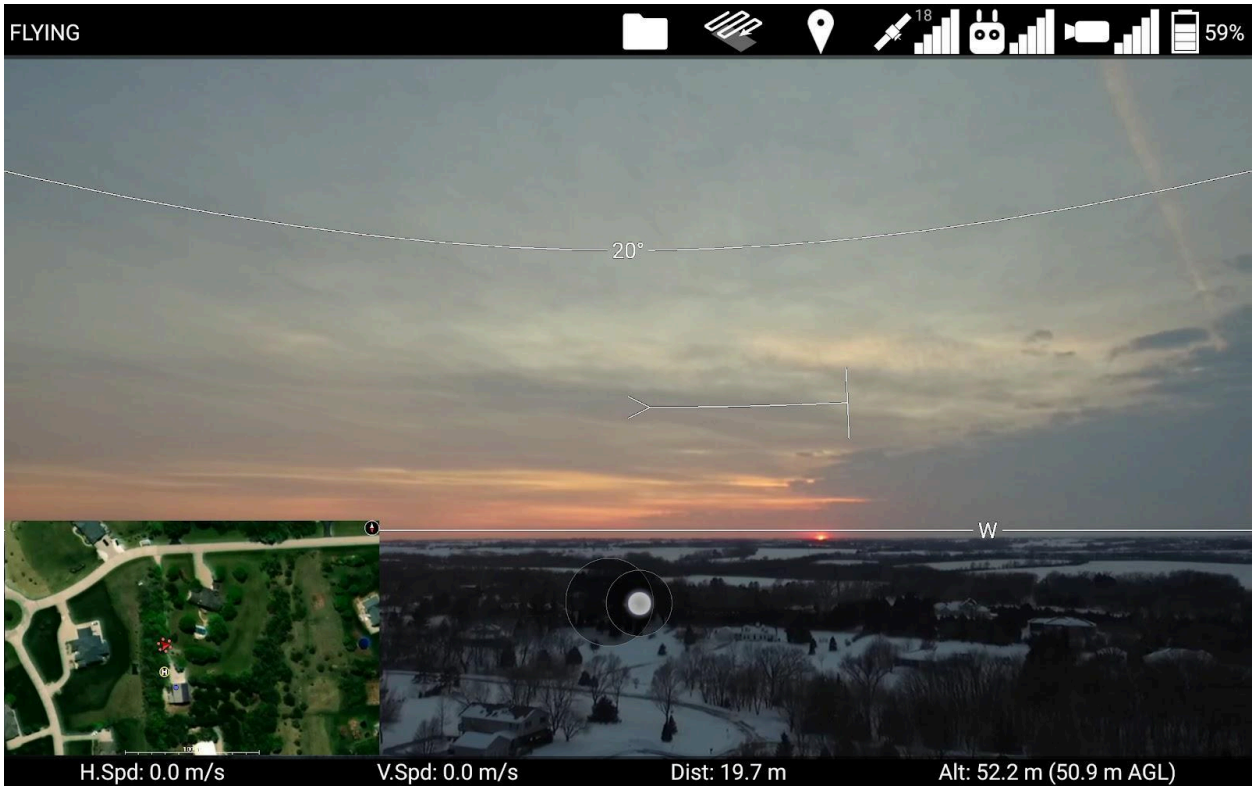
Updated DJI SDK to 4.14.1
Might fix a waypoint altitude bug

Displayed overlays persist if you leave and reenter the Fly screen.
You don't have to re-check the overlays you were using anymore

Fixed a bug preventing some Kml/Kmz files from parsing

Prevented a rare crash when displaying an overlay on the Fly screen

Version 2.13.0



Minimap
Maximizing the video feed will now minimize the map and put it in a corner of your screen so you can still see it.

Repositionable minimap and mini video feed
It's no longer fixed to the bottom right corner. Drag the minimap or mini video feed to snap it to different corners of the screen. I don't recommend leaving the video feed in the top right corner, because then it'll cover up the compass.

Drone heading indicator on video feed HUD shows which way you need to yaw the gimbal to recenter it.
A >------| indicator will be drawn on the maximized video feed while you move the gimbal. The vertical line indicates the drone's current heading. The arrow feathers appear in the middle of the video feed and indicate which direction you need to yaw the gimbal to recenter it. The indicator disappears once you're approximately centered.

Bug Fixes

Fixed a crash when attempting to move the gimbal while a drone with a camera wasn't connected.

Fixed a crash when the video feed reported 0 width / height

Compass heading indicators on the video feed HUD no longer get covered up by the telemetry bars.

Fixed a bug that was causing elevation maps near the equator to fail to load.

Known Issues
The DJI SDK that the general purpose app uses is getting slower with each release, and has very poor video quality and overall responsiveness on older tablets now. We don't recommend users of the general-purpose app use the Nexus 7 anymore. We recommend upgrading to a newer tablet, such as the Samsung Galaxy Tab S4, soon. Users of the government edition aren't affected by this, because that version uses an older, faster version of the DJI SDK.

Version 2.12.3

Bug Fixes
Fixed crash in non-government edition of Ignis app on Android 10+ when adding overlay files.

Version 2.12.2

Bug Fixes
Fixed uncommon crash when generating transect waypoints introduced in 2.12.1

Fixed uncommon crash on start caused by an Android bug

Made navigation buttons white so they stand out more on the Fly screen

Version 2.12.1

Bug Fixes
Fixed a crash on the Camera setup when the camera is set to a value the app didn't expect.

The app will now deactivate transect lines along the segments where they leave a concave transect region.

Added thermal gain mode setting to thermal camera setup, which adjusts how wide of a range of temperatures the camera will sense.

Renamed the thermal photo file format options to indicate what temperature range the grayscale pixels correspond to.

Tested app on Mavic 2 Enterprise Dual and corrected the FOV parameters for its camera.

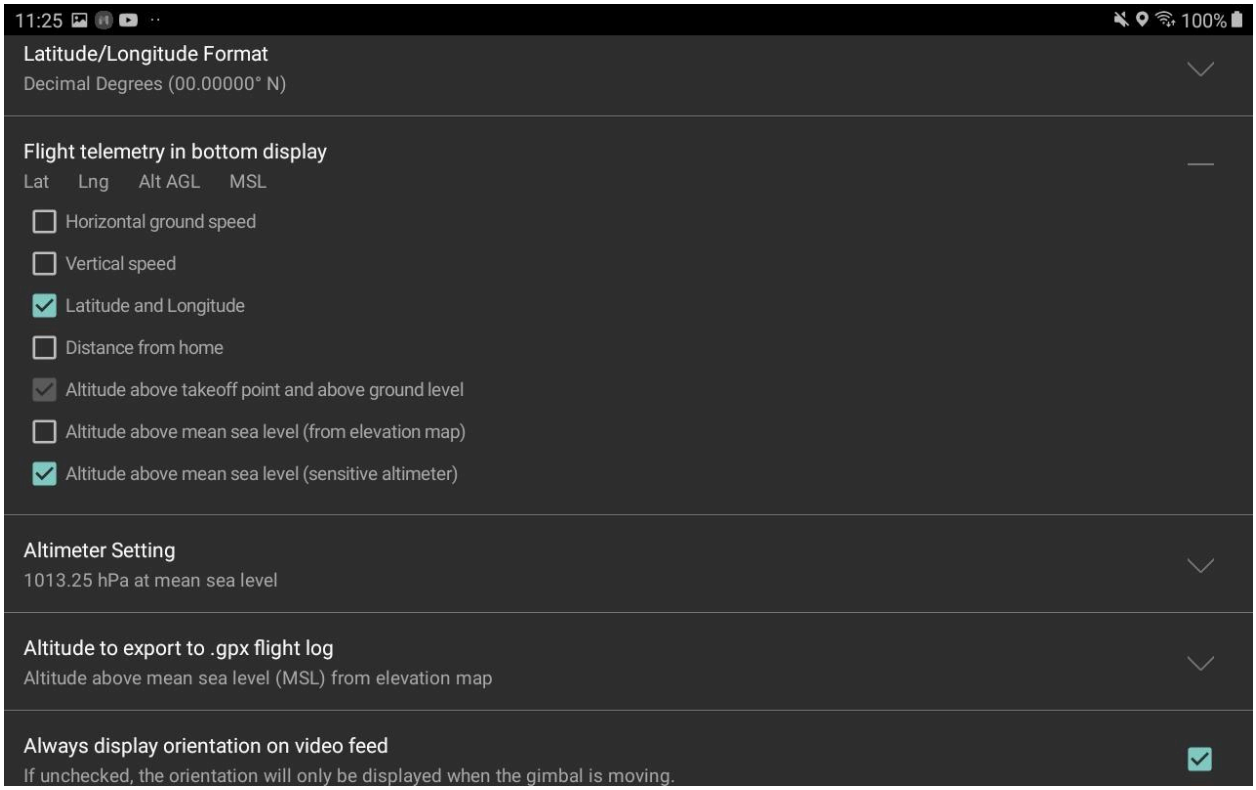
The app was displaying the incorrect frame rate for thermal cameras, but due to a DJI bug, the app can't display the correct framerate, so now it just displays "Unknown".

Fixed a bug that made the pitch lines get drawn in the wrong location on certain video resolutions.

Version 2.12.0

Reminder: users of the government edition app doesn't work on Android 10

This is a DJI bug and not something we can fix. Make sure to disable software updates if you haven't already. Or, you can use a tablet that's too old to receive the Android 10 update. We recommend the Asus Zenpad 10 or the Samsung Galaxy Tab A (2017, 8.0") (Model number SM-T380).



Customize what telemetry gets displayed in the bottom of the flight screen.

You can now display Lat/Lng and Altitude above Mean Sea Level. There are two measurements of Altitude MSL you can display. One uses the elevation of the takeoff point measured by the elevation map and adds on the drone's altitude above the takeoff point as measured by its barometer. This should be pretty accurate unless the elevation map is wildly off at your location. The other is described in the next section.

If you choose to display every telemetry option, it might be too much information for your screen to display, so in that case you'll have to hide the less useful fields, like speed or distance. If you do want to display every telemetry option, let us know and we can update this in the future so it'll wrap onto another row.

Measure altitude like a manned aircraft does

The app can now display the altitude of the drone as it would be read by a sensitive altimeter like in a manned aircraft. This should make it easier to integrate operations with manned aircraft and maintain separation. You can adjust the altimeter setting in the Settings menu. This setting only appears if you have the Altitude above mean sea level (sensitive altimeter) option checked in the Flight telemetry in bottom display setting. Change your units to Imperial to switch this setting to inHg.

Choose which altitude measurement gets exported from your flight logs to .gpx files

Previously the app always output the altitude above ground level. Now you can choose between altitude above takeoff location, altitude above ground level, or the two different altitude above mean sea level measurements. We've also added all of these measurements to our csv flight logs.

If you output the sensitive altimeter altitude, it will output the altitude reading given the altimeter setting you were using at the time. However, the flight logs generated by previous versions of the app did not contain this information, so only flight logs generated by this version and newer will be able to export gpx files with the sensitive altimeter altitude.

Checkbox to always display orientation on video feed

If this is checked, the app will always display the orientation of the camera whenever the video feed is maximized. If unchecked, it will only display while the gimbal is being moved.

Ignis Setup Ignition timer

In the Ignis setup screen, the app will display a timer that counts how many seconds have passed since the last time Ignis dropped an ignition sphere. This can help you measure how long it will take for the ignition spheres to ignite. However, you won't see this if you're connected to an Ignis 1 via Bluetooth.

Optical Zoom and Zenmuse Z3 support

The Zenmuse X3 camera is getting hard to find, but the Zenmuse Z3 is still in stock in many places and is our new recommendation for a budget gimballed camera. It's basically the same as the X3, but supports 3.5x optical zoom. The app now supports controlling the camera's optical zoom by touching the maximized video feed with two fingers and moving them closer together or further apart, same as you would for the cameras that support digital zoom.

If you are planning a mapping mission, the app will assume you'll be flying with the camera's current optical zoom level.

Left and right half area metering regions for thermal cameras

You can now choose to have the Zenmuse XT2 thermal camera identify the hottest and coldest points on the left or right half of the screen. This could be useful for identifying spot fires while you fly along the fire line.

Bug Fixes and Optimizations
-- Fixed a crash when importing a mission with more than 14 transect region vertices

-- Fixed a possible crash when the app recenters the map.

-- Made the Flight Logs screen not excruciatingly slow when you have a lot of flight logs.

-- Made the Ignis Setup screen not excruciatingly slow when you have a lot of bluetooth devices paired.

-- The Field of View values output in the flight logs were outputting the sensor's field of view. They now output the video feed's field of view (which is cropped down from the sensor's fov). This field of view value now accounts for optical zoom. The flight log specification has been updated with these new fields.

-- When you plan a mapping mission, the app now factors in your selected photo aspect ratio into the app's estimate of the camera's field of view (the app assumes it is cropped down from the sensor's aspect ratio). This field of view value now accounts for optical zoom.

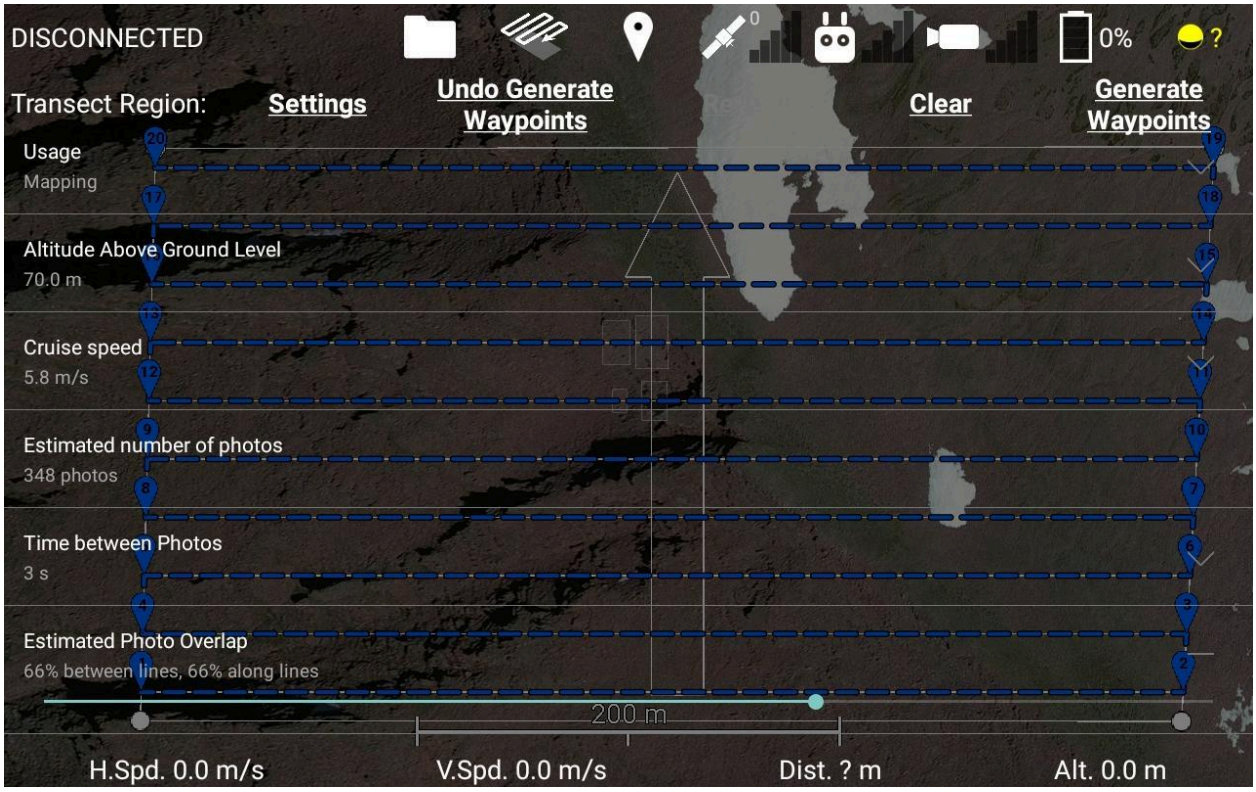
-- Corrected the Mavic 2's field of view value

Version 2.11.0

Government edition app is still broken on Android 10
This is a DJI bug and not something we can fix. Make sure to disable software updates if you haven't already. Or, you can buy a tablet that's too old to receive the Android 10 update. We recommend the Samsung Galaxy Tab A (2017, 8.0"). Model number is SM-T380. Make sure you get this version and not one of the newer versions.

Automated mapping missions

We've finally implemented automated mapping missions with DJI cameras. When you start a waypoint mission while you have a mapping transect set up, the app will switch the camera to Interval photo mode, point the gimbal down, and begin taking photos once it reaches the transect region. When it reaches the end of the transect region or if you stop the mission, it will stop taking photos and switch back to Single photo mode.

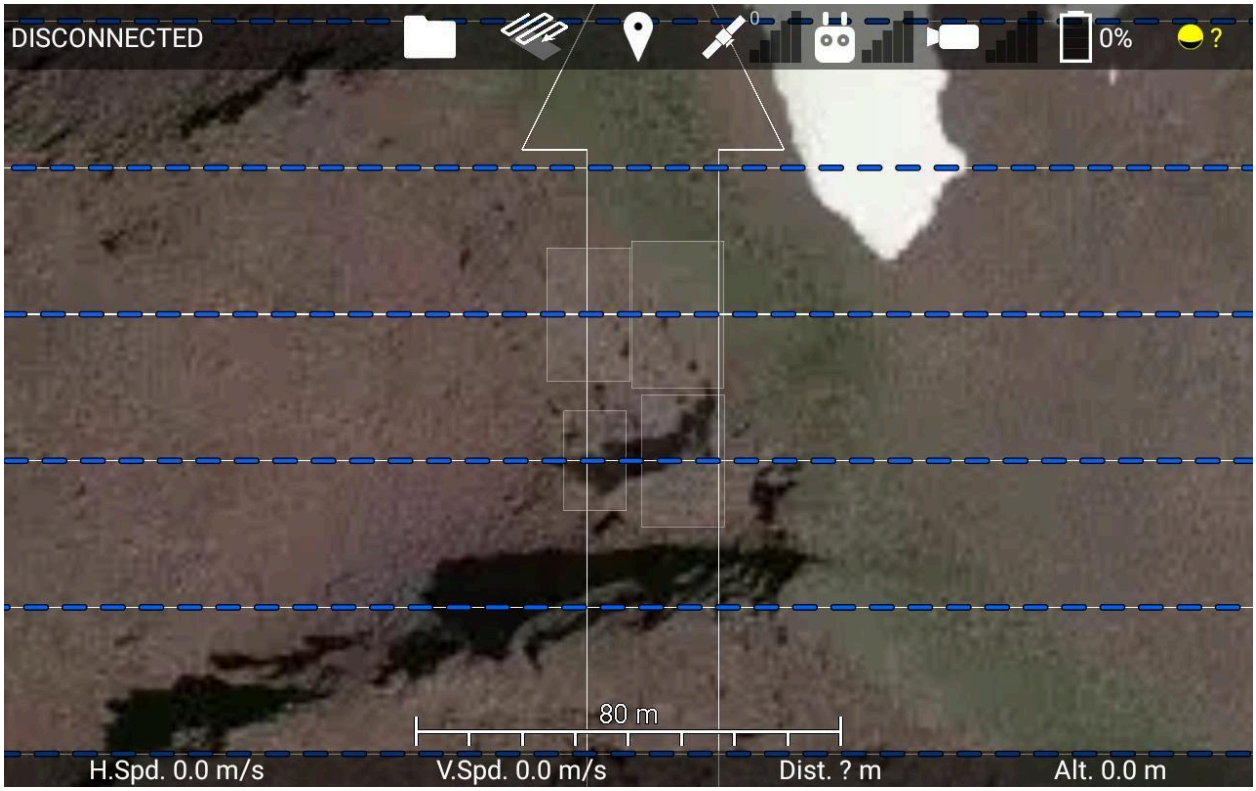


We've reworked the mapping transect user interface to make planning a mapping mission significantly easier. The workflow is this:

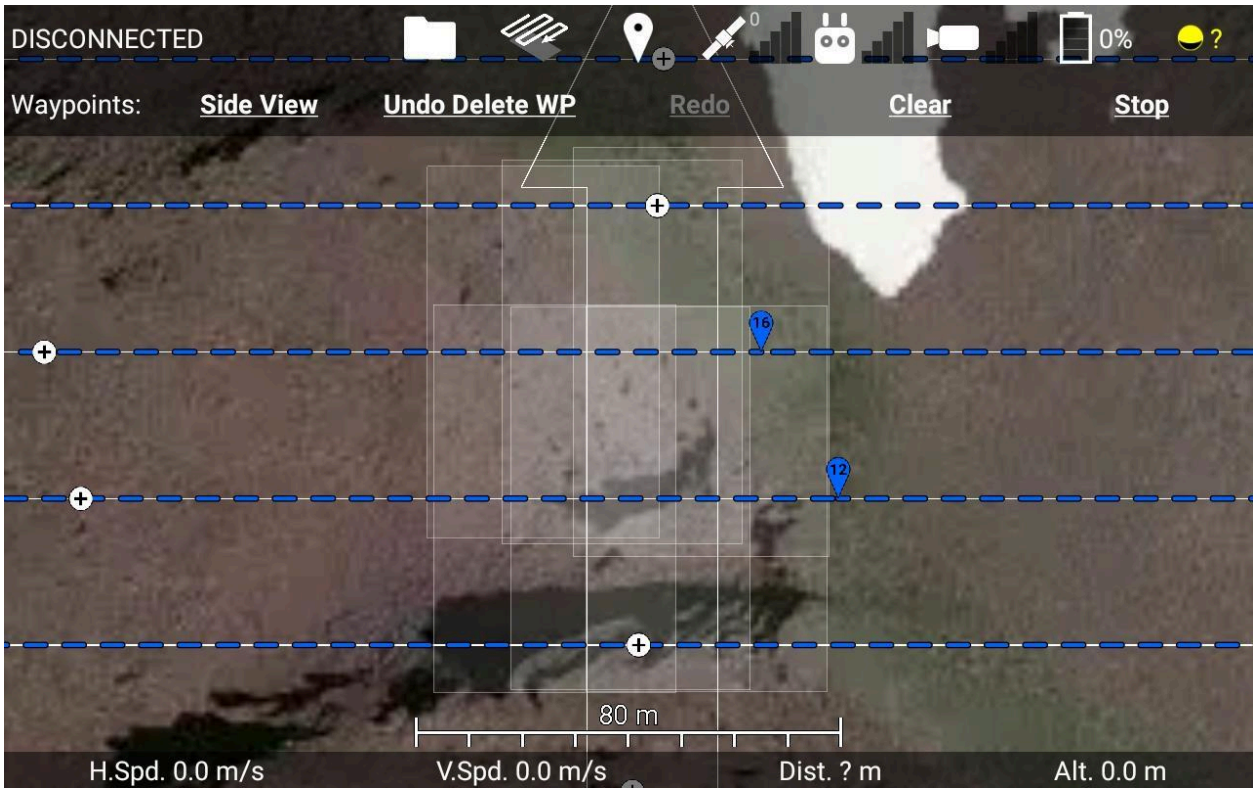
1. Draw your transect region perimeter. You might need to make it a bit larger than the actual area you need to map so that you'll have overlapping photos covering the entire region.
2. Set your Zig-zag heading. Make sure to have the arrow pointed towards the landing location so the drone doesn't need to fly far in case it's low on battery at the end of the mission.
3. Set your altitude above ground level to a safe height.
4. Set your time between photos. The minimum value is 2 seconds, which will result in the fastest mission.

5. Select the camera you will be using for mapping, so the app knows what the field of view is, or input your own field of view values if you're using a 3rd party camera. Note: the drone has to be powered and connected for its camera to show up as an option.
6. Set the estimated photo overlap to your desired value (e.g. 66%). The app will adjust the transect spacing, cruise speed, and time between photos (if necessary) to achieve that overlap.
7. Generate waypoints.
8. Check that the estimated number of photos is reasonable. If there's too many, increase the altitude and go back to step 6.
9. Look over your mission in the side view and add intermediate waypoints as needed to make it follow the terrain better.
10. Takeoff and start the mission.

The app will display predictions of the actual footprint your photos will cover on the terrain, so you can visually verify that you're achieving the correct overlap. It will display only 4-6 photos close to the center of the screen so you aren't overwhelmed with information.



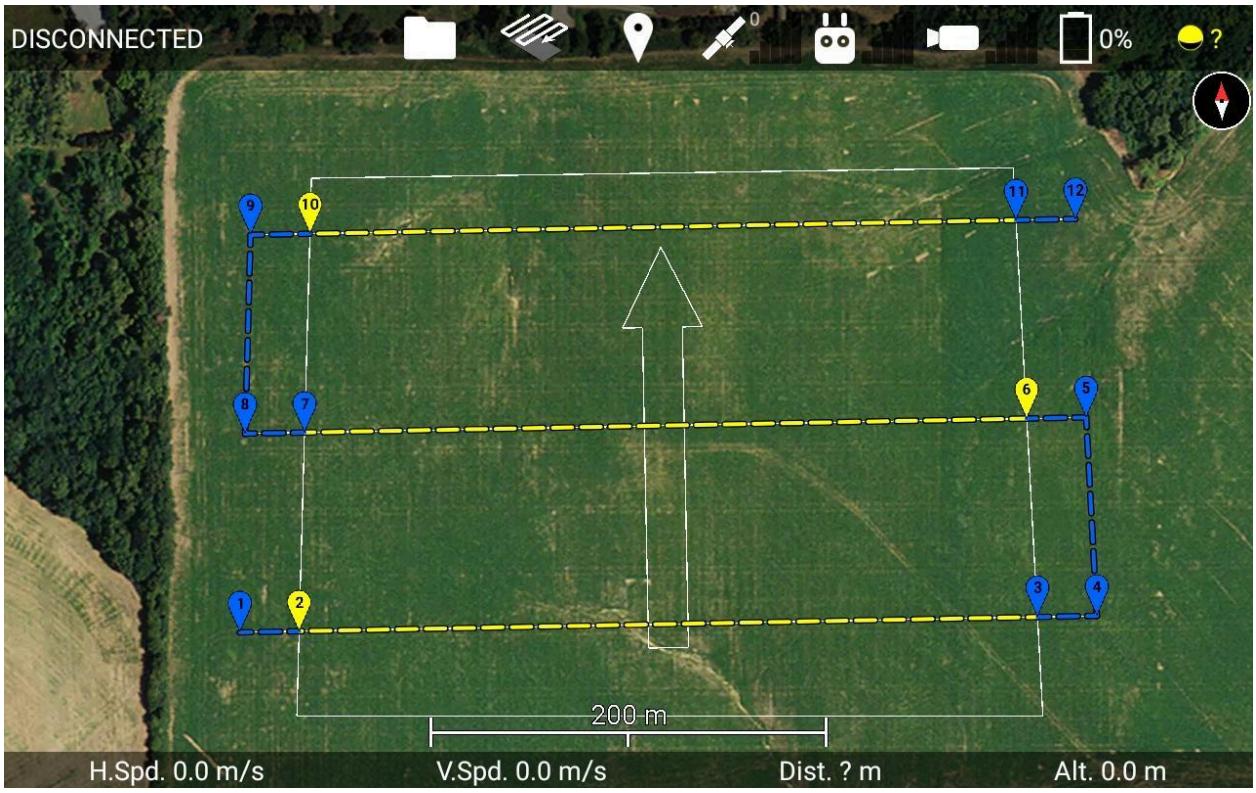
One caveat is that the estimated photo overlap assumes the drone is flying at a constant altitude above ground level. However, if the terrain rises up between two waypoints, as in this example, you may not achieve the necessary overlap. Either increase the estimated photo overlap so you have some margin of error, or add intermediate waypoints so it follows the terrain better.



One more caveat: The field of view values for the DJI cameras are based on the published specifications, which may not be entirely accurate. We haven't tested every DJI camera to verify their accuracy, but we have tested and fine-tuned the field of view values for the Zenmuse X3, the XT2 visual and thermal, and the Mavic 2. You can verify that the app's field of view values for your DJI camera are correct by moving the gimbal around in the app. The app will display an augmented reality HUD, showing which direction is N, NE, E, SE, etc. If the field of view values for the camera are correct, then these direction overlays should cover the same feature in the video regardless of where the camera is pointed. If they're incorrect, then you're out of luck for now until I add a way for you to correct those.

Transect overshoot distance

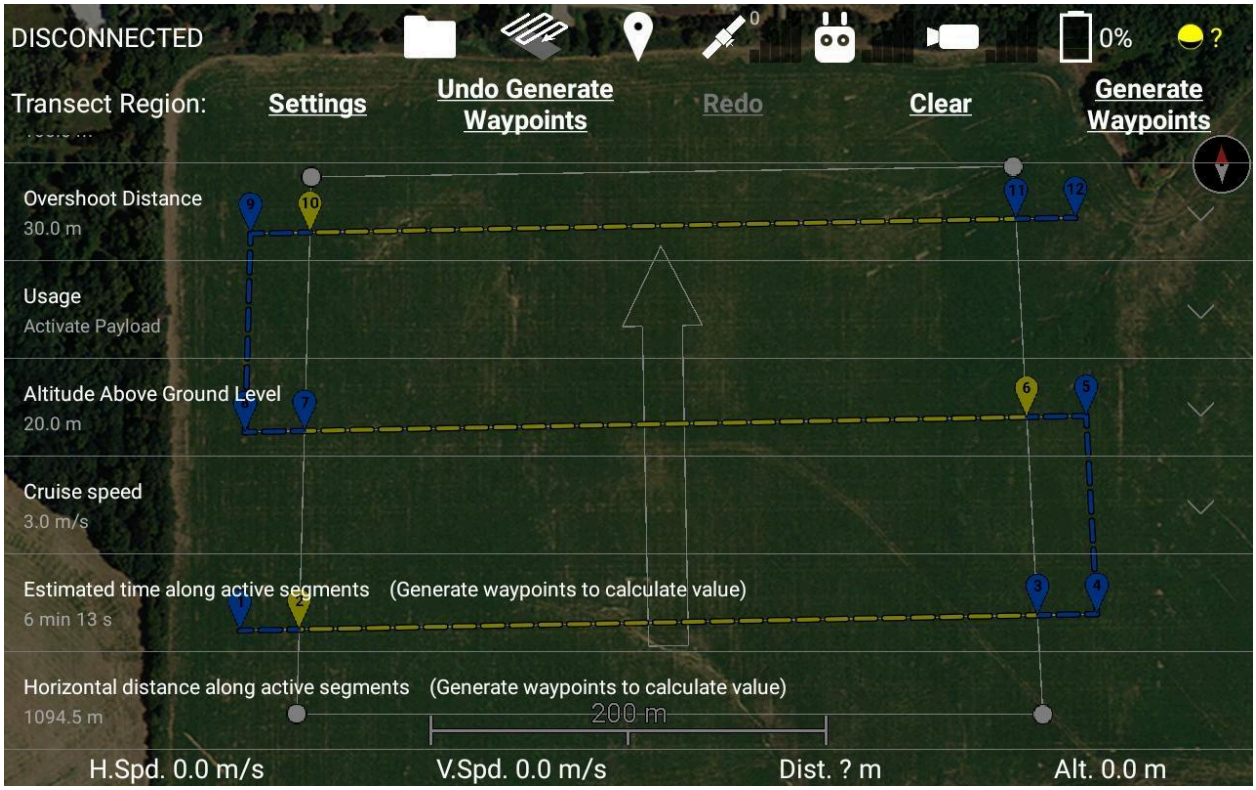
There's a new slider in the transect settings called the overshoot distance, which will extend your transects out past the region by up to 30 meters, which allows you to create patterns like this:



This should be helpful for anyone using Ignis 1, as it allows the drone to accelerate up to its cruise speed before it starts dropping, so you'll get a more consistent spacing.

Renamed the "Ignition" transect region usage to "Activate Payload"
No functional difference. Maybe we'll support other kinds of payloads in the future.

App now estimates the time and horizontal distance along activated segments
The app now calculates an estimate of how long and far the drone will be flying along the activated segments. You need to generate the waypoints in order for this value to get updated.



Currently this is only displayed in the transect settings.

Added snap altitude slider to waypoint mission settings.
This slider adjusts the height of the orange-dotted line in the side view, so you can set it to a particular altitude more easily. HOWEVER, this slider will sweep up any of your waypoints and move them, so make sure you double-check your waypoint mission in the side view before starting it. I've added a warning about this to the slider too.

Added more fields to the flight log to somewhat support full motion video.
The flight log now has columns for the gimbal's orientation, the times the drone was recording video, and the field of view of its camera(s), which should allow you to derive all of the information ArcGIS requires for full motion video.

Minor features
Prematurely stopping a waypoint mission will add a waypoint at the location you stopped, so you can resume the mission from the same location.

The app will automatically stop the waypoint mission when you reach the last waypoint, instead of waiting for the drone to decide it's done after hovering around the last waypoint for a while.

Added a switch to the app's camera controls to toggle between Single photo mode and your most recently used non-Single photo mode.

Added settings in the drone setup for Interval photo period, photo file format, and video file format.

The boundaries of all of your downloaded regions will be visible as gray rectangles when you view an offline region.

Flight logs with hard Ignis errors will be noted as such in the flight log browser and will show a red path during that section of the flight.

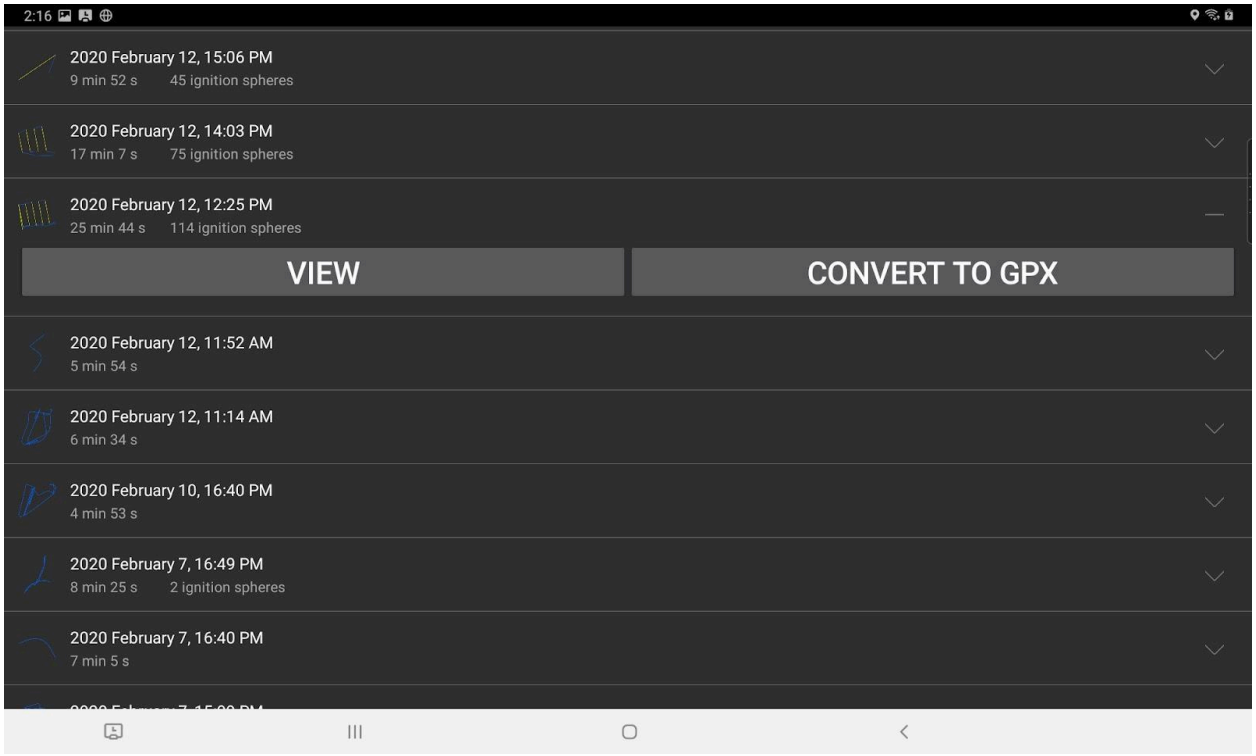
Updated the general-purpose app to the latest DJI SDK, which adds support for the Mavic Mini, among other DJI products. Note that the Mavic Mini does not support waypoint missions.

Bug Fixes
Fixed some bugs that were preventing some PDF files from parsing.

Generating new waypoints for a transect region will now delete any waypoints previously generated by a transect region, in addition to any waypoints that cross the transect region.

Version 2.10.0

Flight log browser
Touch the new "Flight Logs" button on the main screen to see a list of all your old flight logs. Each entry shows a small preview image, the date and time the drone took off, the duration of the flight, and how many ignition spheres were dropped.



If you touch a flight log, you can view a drawing of the flight path. The parts where Ignis was dropping are displayed in yellow, and an ignition sphere is shown at each drop location.

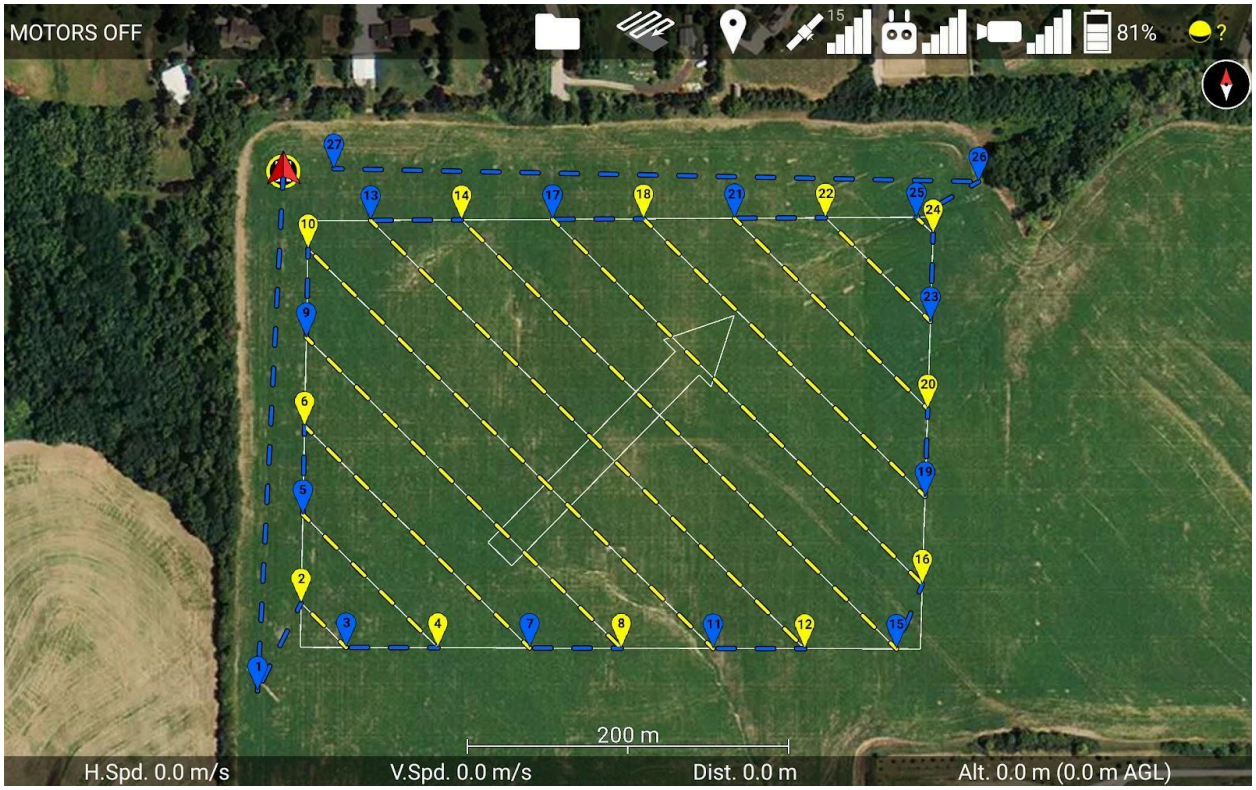
We plan to add more features to this later, such as a way to view your altitude over time.

You can also convert a flight log into a .gpx file, which will contain the flight path and all of the drop locations. The gpx file gets saved to a folder on your tablet at "Internal Storage/Drone Amplified/Flight Logs GPX/"

Bug Fixes
-Fixed the crash that would occur when running the app on Android 10. This is not fixed in the government edition of the app. Users of that version should disable automatic downloading of software updates so they don't update to Android 10.
-Fixed a bug that would sometimes make the app not reconnect to Ignis over bluetooth if it became disconnected.

Version 2.9.0

Transect lines
You can now generate sequences of waypoints that fly parallel transect lines across a region you defined. This could be useful for mapping areas with a downward-facing camera, or possibly even igniting backfire lines at a prescribed burn.

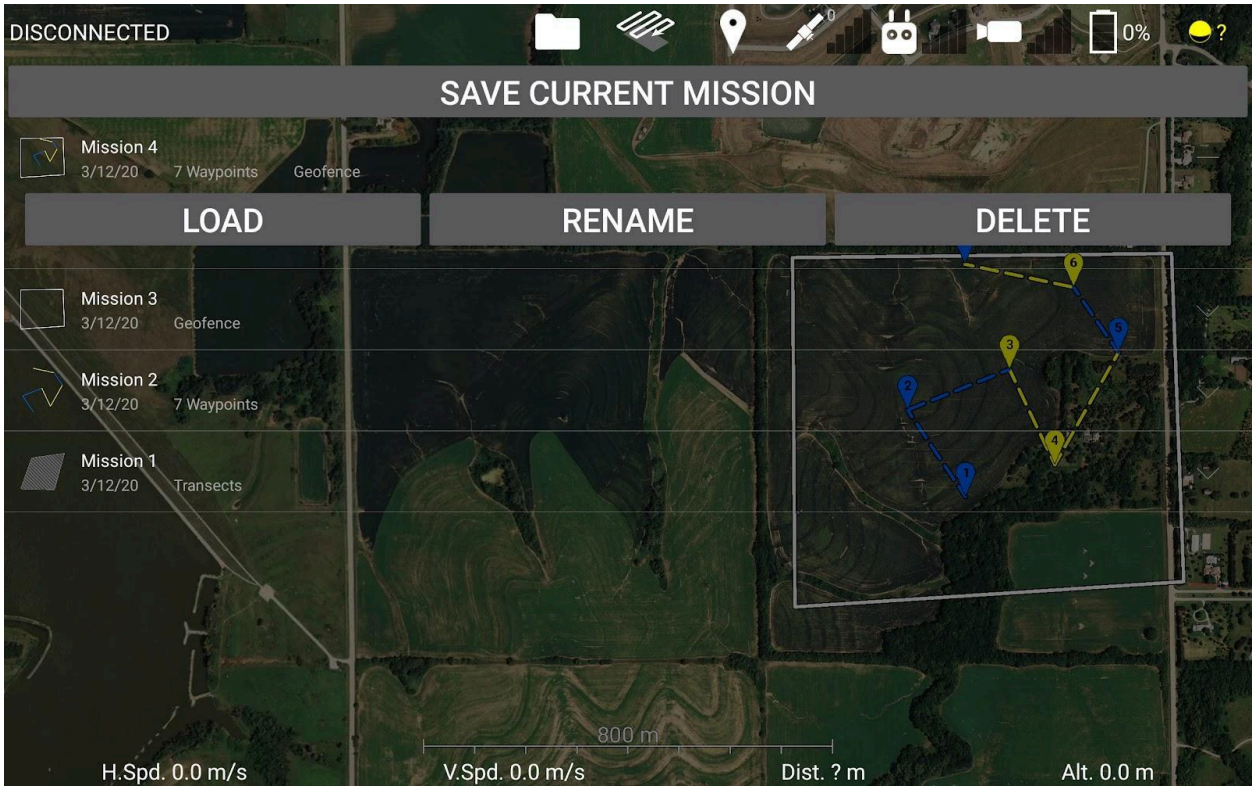


Touch the zig-zagging arrow icon at the top of the screen, to open the transects menu, then touch the map at the corners of the area you want to fly over. Adjust the transect settings to configure the angle and spacing of the transect lines, then touch the "Generate Waypoints" button to generate the waypoints.

If you want to use this for mapping, then you currently have to use a separate time-triggered camera mounted to the drone. The app doesn't yet support automatically taking photos with the DJI camera, but this will be a feature that we'll add in the future. We've also implemented some additional features to help you make sure the photos will overlap, which you can read more about in the manual.

Saving and Loading Missions

You can now save and load your waypoint missions, transects, and geofences.

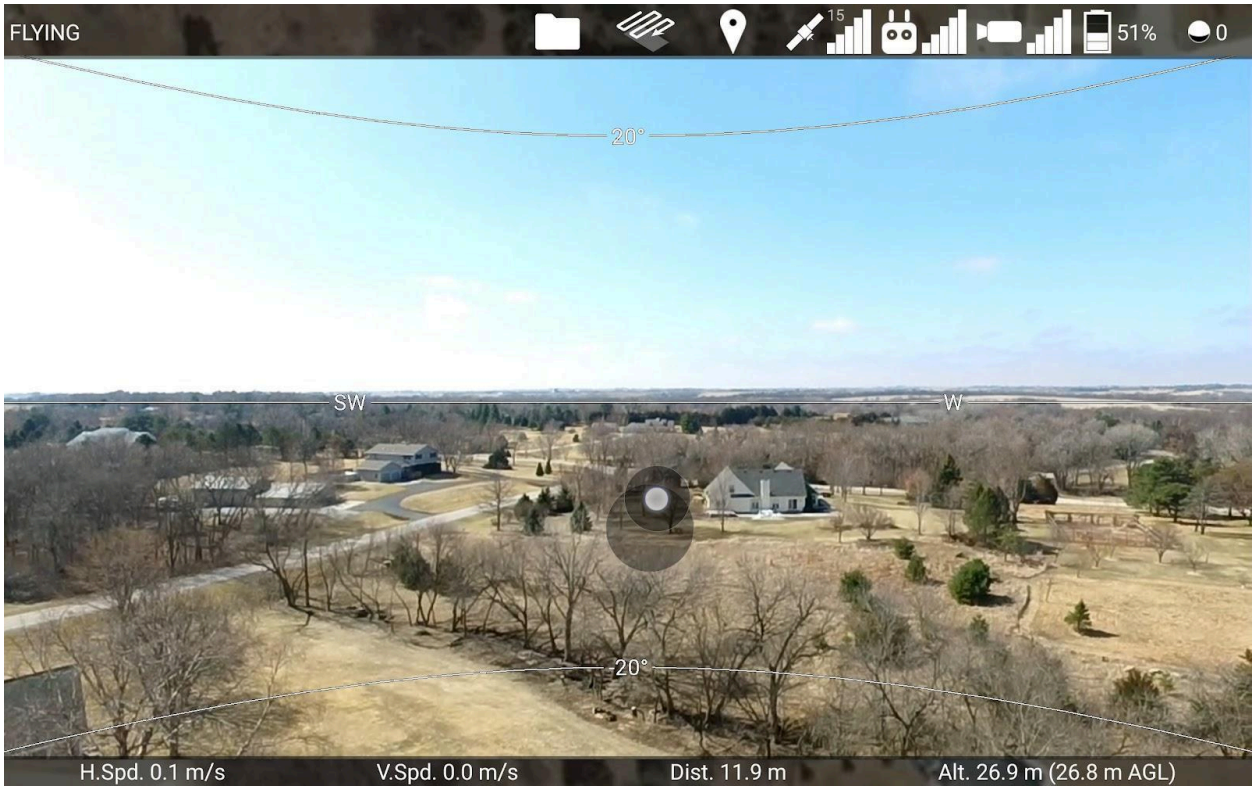


Create your waypoints, then touch the folder icon at the top of the screen, then touch "Missions", and finally touch "Save Current Mission". The app will save your waypoints, geofence, and transect region to a CSV file on your tablet, which you can load later.

Also, the Overlays list is now located under the Folder icon, instead of under the GPS satellite icon.

Gimbal attitude display

While you are turning the gimbal, the app will overlay a display on the live video feed that shows which direction you're looking, as shown in the next image.



It's like the camera is centered inside a sphere that has lines drawn around it at 0, 20, 40, 60, and 80 degrees of pitch. It's easy to understand how far up or down the camera is pitched just by looking at the curvature of the lines. Additionally, compass directions like N, NE, E, SE, etc. are written along the 0 degrees pitch line.

Scalebar on map
A scalebar is now drawn in the bottom-center of the map that shows you how long a distance on the screen is. (See the transects image earlier).

Download images and videos directly from the drone to your tablet
Go to "Drone Setup", then "Camera", then "SD Card", and you'll see a list of all of the images and videos saved on your DJI camera. Touch one of the files to get the option to download it.
Downloaded files are saved at /Drone Amplified/Media/Your Drone's Name/ on your tablet.

If you wait long enough, it will also load thumbnail previews of the images and videos.

See the min flight altitude in side view
DJI doesn't allow you to put waypoints below -200 meters from your takeoff location. This is now shown as an additional red line on the waypoints side view.

Bug Fixes
Fixed a bug that caused upcoming waypoints to get removed if you backed up to a previous waypoint.
Fixed a bug that would cause the elevation map overlay to flicker if you scroll far away from where you're flying
Fixed some bugs in the PDF parser that caused it to parse some PDFs incorrectly.

Manual Fix
Some previous versions of our manual had broken links. You couldn't jump to referenced sections or images. We've now fixed that with this release.

Version 2.8.1

Ignis 2 always drops at fastest rate when drop spacing is set to 0 meters.
Previously, Ignis would drop at the slowest rate when drop spacing was set to 0 meters and the drone was hovering in place.

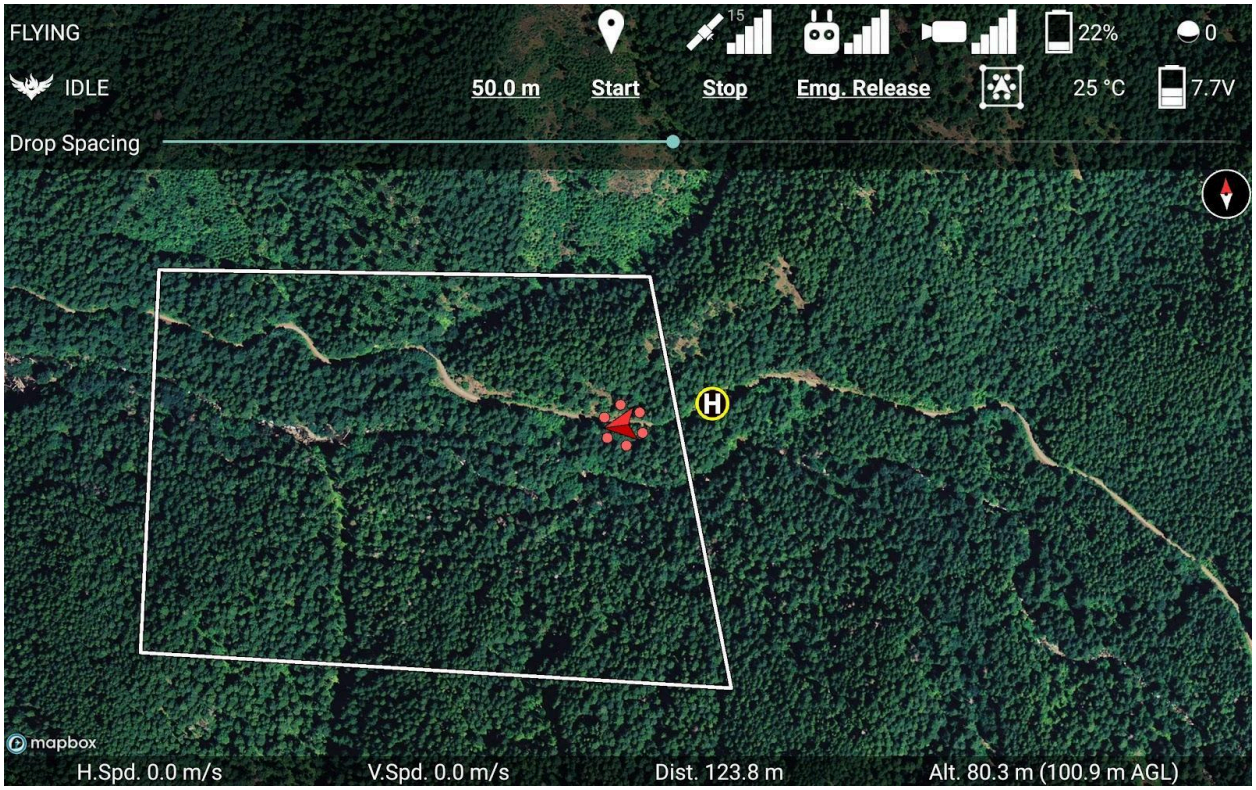
Added maximum drop timing slider
Added a slider to the app settings that controls the maximum time between drops. The purpose of this slider is so you can make it more obvious it is that Ignis 2 is dropping by ensuring there won't be long time periods between drops. The tradeoff is that you limit the maximum drop spacing you can achieve.

Ignis 2 currently supports up to 7 seconds per sphere, but we may increase this with a future firmware update. Ignis 1 supports up to 12 seconds per sphere. Since Ignis 1's drop timing is directly controlled by a drop timing slider, this slider merely increases the maximum value of that slider.

Removed Ignis icon next to Ignis status message
On tablets with smaller screens, the Ignis status was getting cut off because there wasn't enough space to display it.

Version 2.8.0

Sped up slowest settable drop rate to 7 seconds per sphere
Previously you could configure Ignis to drop at a rate of 12 seconds per sphere. We think that this might be so slow that people could misinterpret it as not dropping, so we've adjusted the slowest settable drop rate to be 7 seconds per sphere. Given the Matrice 600's maximum flight speed of 15 m/s, this limits the largest drop spacing to 105 m (345 ft) between drops. Let us know if you have a need for a larger drop spacing than this, and we'll consider adjusting this again.



Ignis 2 support

This version of the app supports our new and improved version of Ignis, Ignis 2. If you are connected to Ignis 2, you will see a new control for Drop Spacing. As you fly the drone, the app will automatically adjust Ignis 2's drop rate according to the drone's speed to achieve the desired drop spacing. This works in both the programmed waypoint missions and during manual flight.

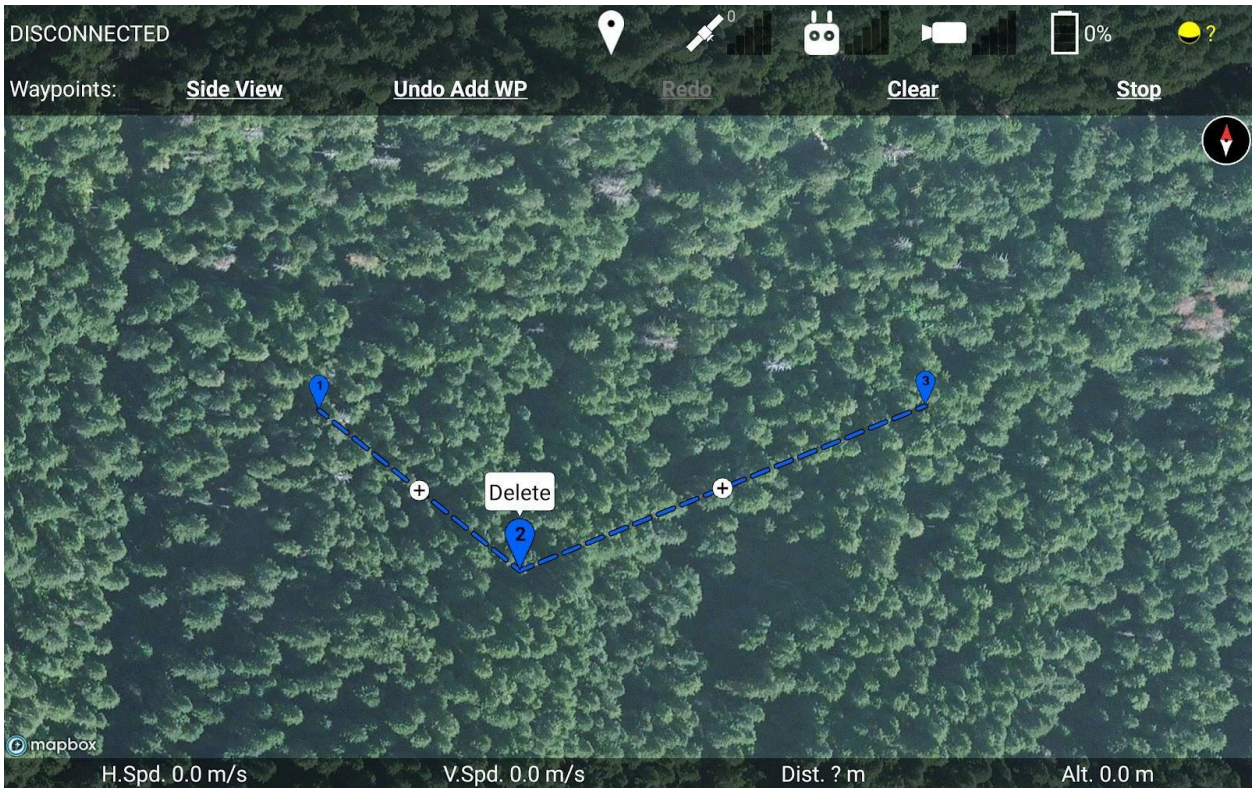
The actual drop spacing will be constrained by Ignis's minimum and maximum drop rate. Ignis 2 can drop at rates between 1 sphere every 0.5 seconds at fastest and 1 sphere every 7 seconds at slowest. So, if you're hovering in place, Ignis 2 will still drop one sphere every 7 seconds.

If the drone isn't flying, Ignis 2 will drop at its fastest rate.

Performance improvements

Implemented a custom map annotation system for better performance and to allow for more complex interactions, like dragging. As a side effect, you may notice some lag

between the position of the annotations and the underlying map image when you are scrolling the map quickly, but it's an acceptable tradeoff.
Editing waypoint missions is much more responsive.
More detailed animation of the drone's pitch and roll.



Improved waypoint interactions in the top-down map view
You can now move waypoints by dragging them with your finger.
You can add waypoints in between other waypoints by touching a + button, just like how it works in the side view.
Touch any waypoint to select it, and then touch the "Delete" bubble to delete it.

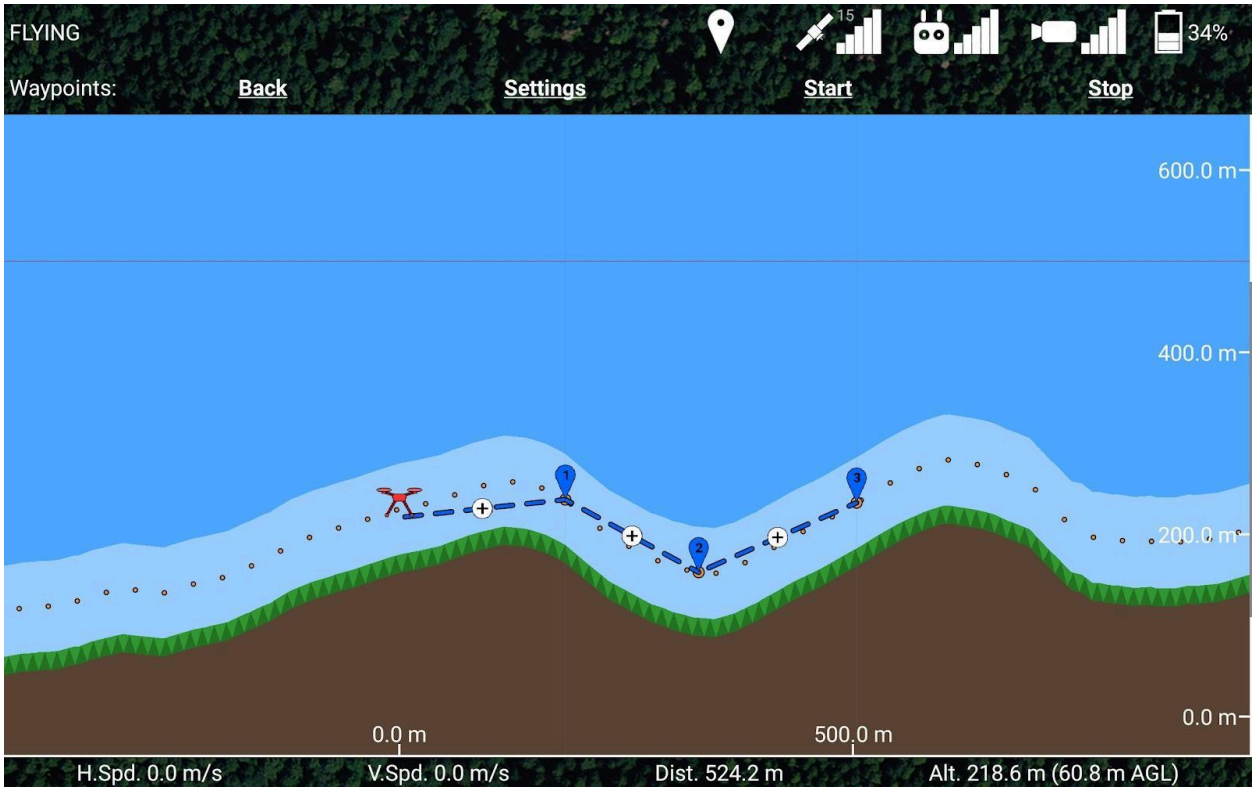
Draggable geofence corners
You can now drag the corners of your geofence while you are creating it.

Easier to leave chase mode.
If you touch the drone, the map view will snap to the drone and follow it, which we call "Chase mode". If you try to scroll or rotate the map, then the camera will immediately stop

following the drone. This should make it intuitive for someone who doesn't know what "Chase mode" is to leave chase mode if they accidentally touch the drone.

Drop counter now gets reset for each flight
The drop counter in the top right corner of the flight screen will get reset to 0 every time you take off. If you want to see the old drop counter, which counted how many ignition spheres Ignis has dropped while it was on, you can see this in Ignis Setup.

Added a "DROP 2" button to Ignis Setup
If you want to do a quick test of Ignis, you can now tell it to drop exactly 2 ignition spheres and then stop.

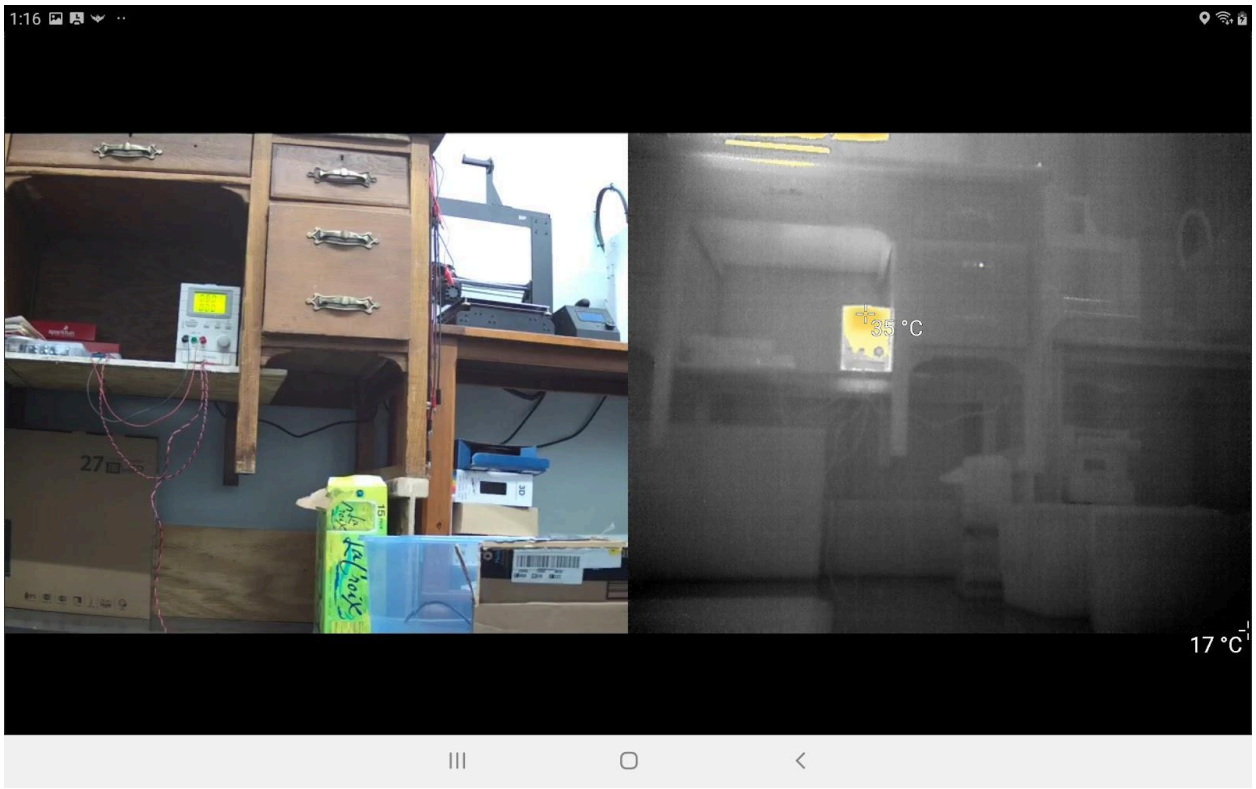


Simpler snap altitude for terrain-following missions
We've simplified the snap altitude system. Now there's just the snap altitude line above ground level, represented by the orange dotted line in the side view. It's always enabled, and new waypoints will always be set to this altitude.

You can drag it up and down in the side view to change its altitude above ground level. As you drag it up and down, it will also move any waypoint snapped to it along with it. Additionally, it will sweep up any unsnapped waypoints it passes through and automatically snap them to it.

The snap altitude slider was removed from the waypoint settings screen, because you couldn't see the consequences of adjusting the snap altitude from that screen. Now it can only be adjusted in this side view.

Drone max flight altitude drawn as a thin red horizontal line in the side-view
You can't put waypoints above the drone's maximum flight altitude (configurable in Drone Setup). Now there's a line that shows this altitude, shown at 500m in the above image.



Display radiometric temperature measurements

The app will now show radiometric temperature measurements from the Zenmuse XT-2 when the video feed is maximized. You can enable this in the settings for the Zenmuse XT-2 Thermal Camera in Drone Setup.

There are two modes: Spot Metering and Area Metering. In Spot Metering, you'll see the temperature of the center point of the screen. In Area Metering, you'll see the temperature measurements of the hottest and coldest parts of the screen, as shown in the above image.

In Area Metering mode, you can specify a subregion of the screen to process. The app gives you options for the entire screen, the bottom half, the middle ninth, or the center point. The center point subregion works exactly the same as Spot Metering mode. However, if you switch from Spot Metering mode to Area Metering, there's a DJI bug that will set the region to the center point, so make sure to change it back.

The temperature measurements will be displayed whenever you're viewing the thermal video feed, except for the "Align" picture-in-picture mode.

More camera settings
Adjust resolution, frame rate, and photo mode. Your camera may not support all options, so check your camera's manual to see what it supports. Even if the option sticks, that may just be a DJI bug.

Added a way to clear the displayed drop locations
In the app settings, there's now a button to clear all of the drop locations so you won't see them anymore. There's also a slider so you can adjust how long the app will save drop locations (up to 2 weeks).

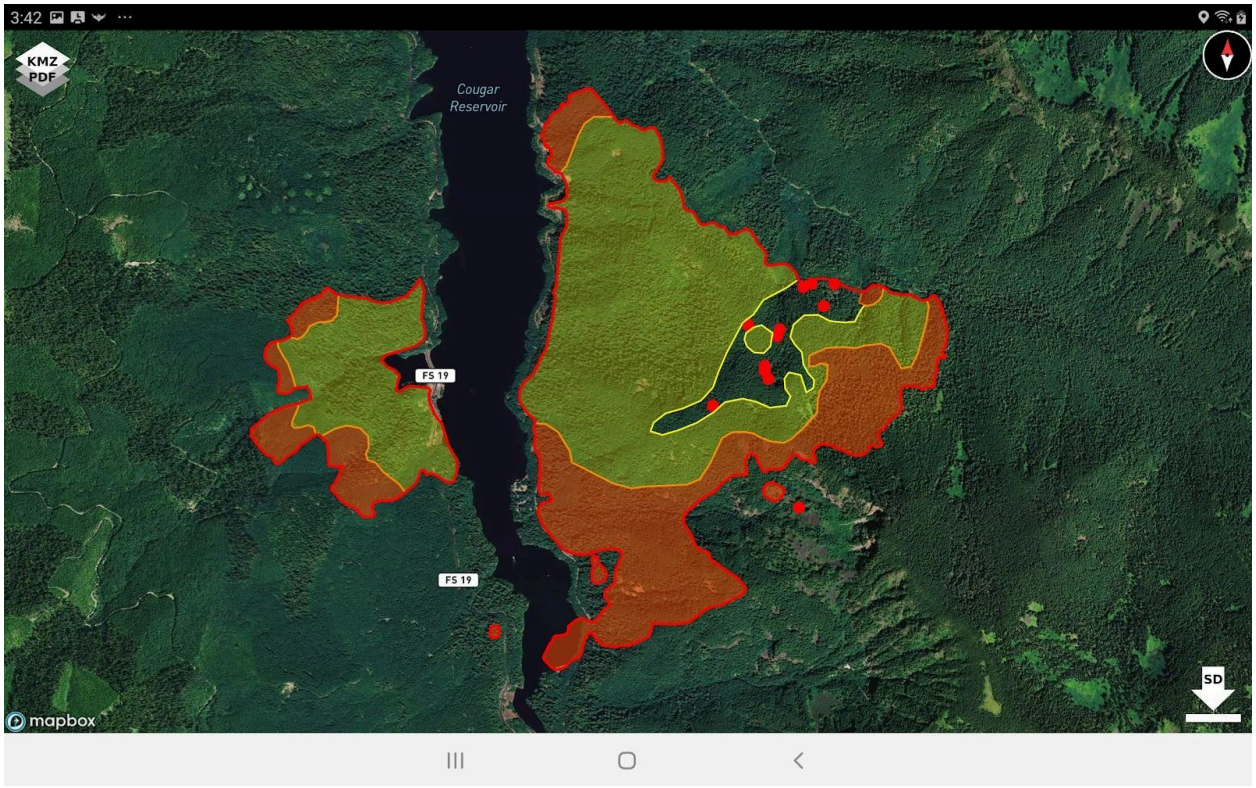
New C1/C2 button functions:
-Switch left wheel function between pitch gimbal and yaw gimbal. Hold to recenter.
-Minimize/maximize video feed in app

We've noticed that minimizing/maximizing the video feed is a common operation, but it requires you to take your hand off the controller to touch the touchscreen. Now you can bind that operation to one of the C buttons. We've also added a function that allows you to control two axes of the gimbal with just one C button, so you can still have full gimbal control even with one button bound to toggling the video feed.

Import .csv files as map overlays, including the app's flight logs
If you want to see a previous flight path you flew, you can now import that flight's log file as a map overlay. Your flight logs are saved in /Drone Amplified/Flight Logs/.

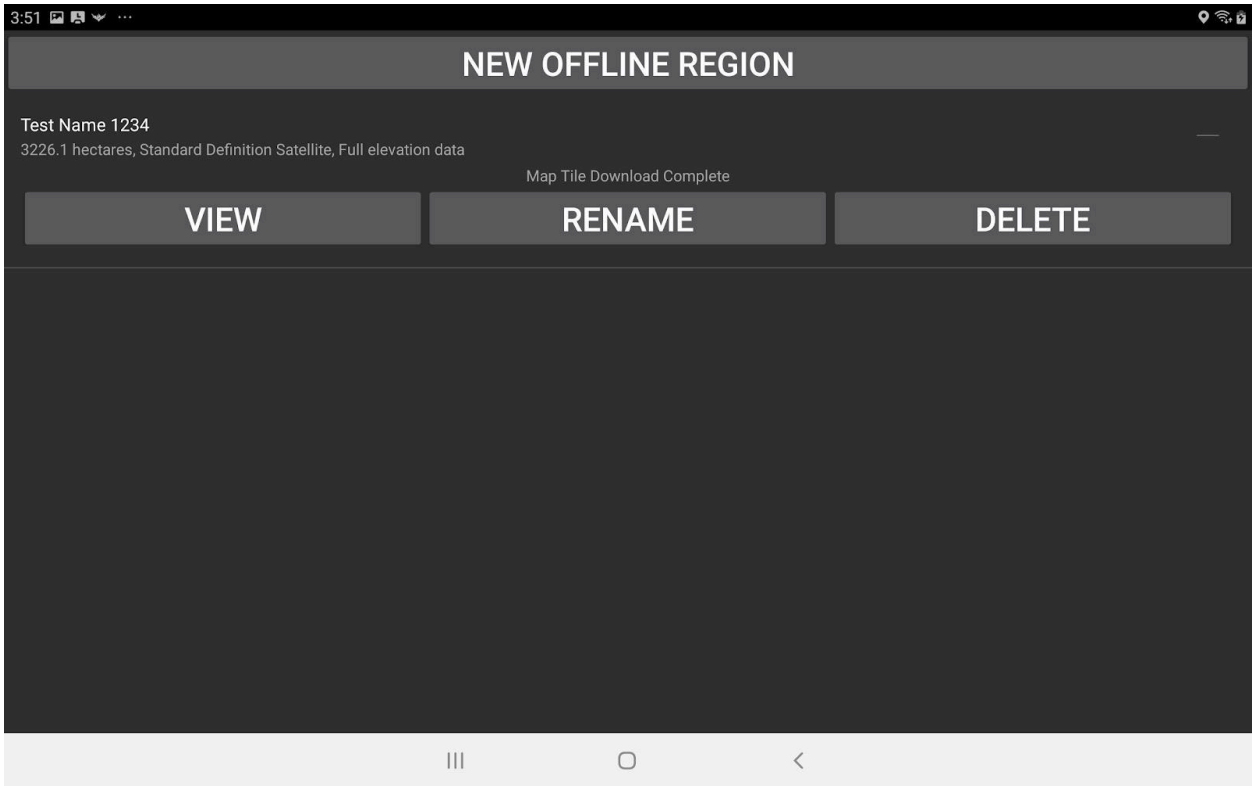
Any csv file should be importable, so long as you have columns titled something similar to "latitude", and "longitude" in the first row. The other rows should have latitude and longitude values in decimal degrees format in those columns.

The color of the overlay is randomly determined when you import it.



View overlays while downloading maps

If you were having trouble finding what section of land to download an offline map for, you can now view your map overlays while selecting a region to download. Just touch the KMZ/PDF button in the top left to select the map overlays you want to see.



Rename offline maps
You can now rename your offline maps, and give them more human-readable names than their Latitude/Longitude coordinates. Touch the "RENAME" button, and type in the new name, then touch the "SAVE CHANGES" button to save the new name.

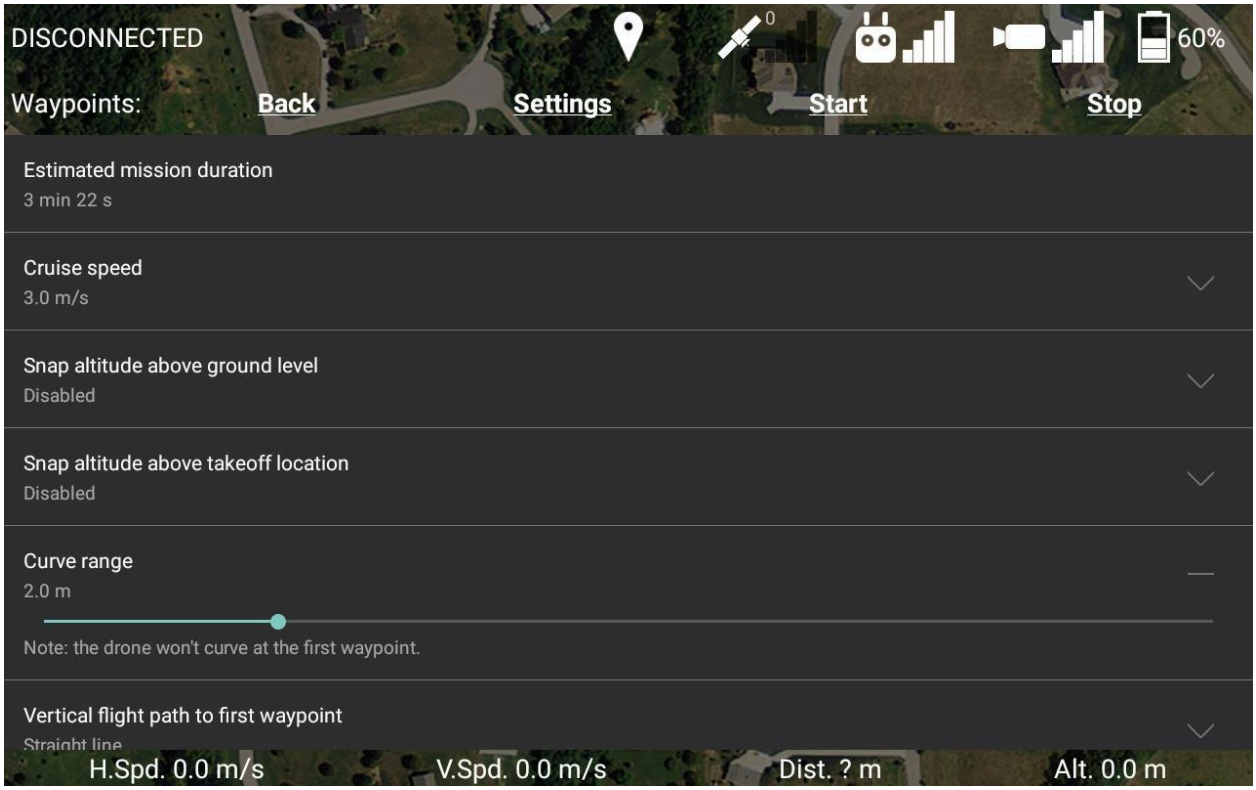
Bug fixes
-The privacy-enhanced version should now connect to the controller as soon as you select it for the connection.
-The video feed was being stretched to fill the screen. Now it doesn't get stretched, and it gets centered in the area between the top and bottom telemetry information rows.
-The size of the map you could download for offline use was dependent upon the latitude of the area because of distortion from the Mercator projection. Now we compensate for that.
-The initial zoom level on the Fly screen could be too close or too far away depending upon the latitude. Now we compensate for the Mercator projection distortion.
-Scrolling the side view could sometimes cause the side view to fly away at high velocities due to noise in the touch sensor. Implemented a better filtering algorithm to fix this.

-Fixed a bug in which the app would use metric units when it was started, instead of the user's unit preference.
-The altitude of a waypoint you're moving in the side view is now drawn above your finger instead of below it.
-Fixed a bug in the estimation of the number of ignition spheres required for a waypoint mission.
-If you're in the waypoints settings and press the "Back" button, it takes you back to the side view, and not all the way back to the map.

Version 2.7.1

Privacy Enhanced version updates:
Updated the DJI Mobile SDK used in the privacy-enhanced version of the app.
This version now runs on tablets running Android 9 (Pie), and is compatible with more recent DJI drones.

Version 2.7.0



Curved Waypoint Missions:
There is a new setting in the waypoint mission settings: "Curve range" - This setting controls the distance from the waypoint at which the drone will start turning towards the next waypoint. Setting this to a small non-zero value will result in a smoother flight as the drone won't stop at each waypoint. However, note that the drone will always stop at the first waypoint.

If a leg of your waypoint mission is too small to allow the full curve range at its waypoints, then the curve range at those waypoints will be reduced to fit.

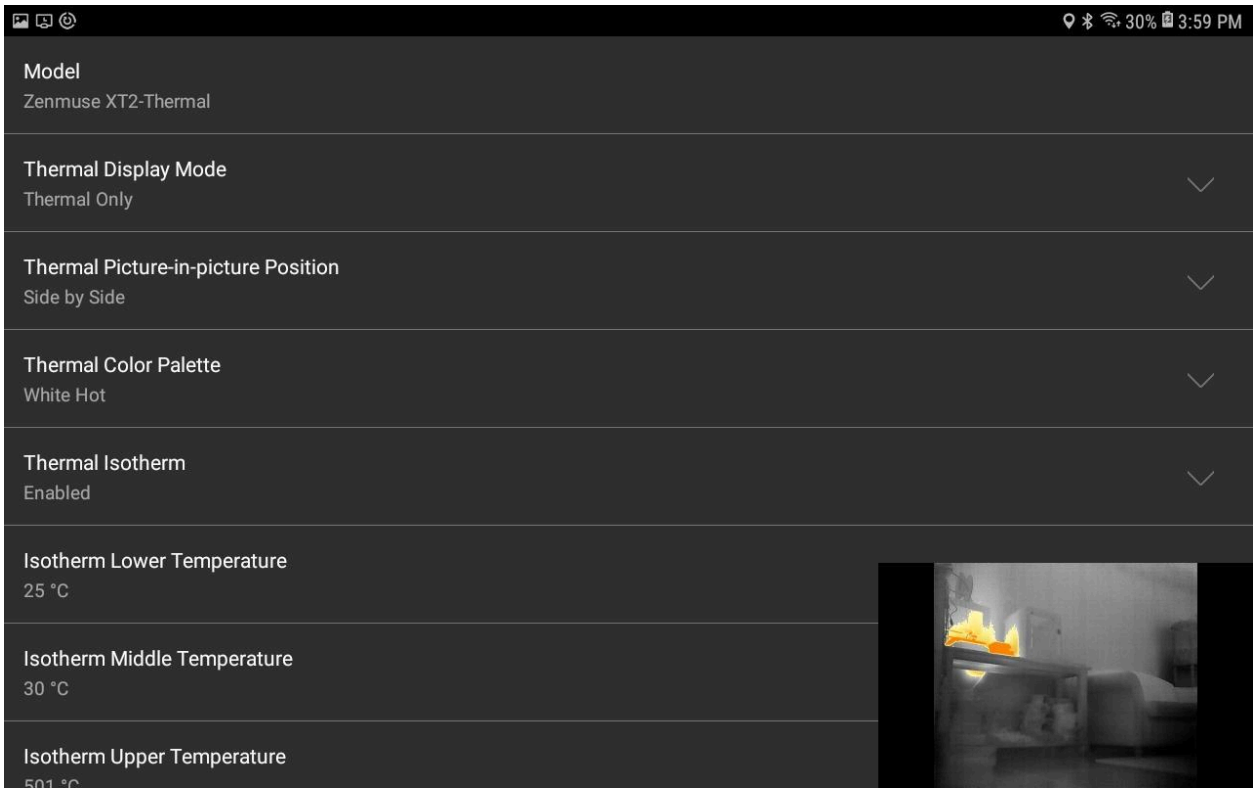
We currently don't have any visual feedback of the curving in the map screen, but we plan to add that in an upcoming release.

Known Issue: After Ignis stops, it can take up to 3 seconds for Ignis to be ready to start dropping again. During this time period, it ignores all start dropping commands. If your mission has a short transit line where Ignis is supposed to stop dropping, then it may ignore the start command when the drone gets to the next drop line. This issue may be

more apparent during curved waypoint missions because the drone won't have to come to a stop at each waypoint, so it can fly across transit lines very quickly.

If your mission has a short transit line, then we recommend either:

- Enabling dropping during short transit lines,
- Lengthening your transit lines,
- Setting a lower cruise speed,
- Manually starting dropping on drop lines that it didn't automatically start, or
- Manually slowing the drone down during short transit lines by pulling back on the pitch stick.



New Thermal Camera Settings:
"Thermal Display Mode" - Switches between visible, thermal, picture-in-picture, or MSX. This is redundant with the setting in the flight screen.

"Thermal Color Palette" - Select the thermal color palette. This is redundant with the wheel on the controller.

"Thermal Isotherm" - Enable/disable isotherm color gradients. Enabling this setting will allow you to highlight objects that fall within particular temperature ranges in the thermal video feed. Each thermal color palette has four different color gradients for the isotherm temperature ranges:

- Color Gradient 1: Spans the temperature range from the coldest visible object to the Isotherm Lower Temperature setting. This uses the same color gradient as the palette without isotherm enabled.
- Color Gradient 2: Spans the temperature range from the Isotherm Lower Temperature setting to the Isotherm Middle Temperature setting.
- Color Gradient 3: Spans the temperature range from the Isotherm Middle Temperature setting to the Isotherm Upper Temperature setting.
- Color Gradient 4: Spans the temperature range from the Isotherm Upper Temperature setting to the temperature of the hottest visible object.

See the user manual for your thermal camera for the different color gradients used by each palette.

"MSX Visibility" - Controls the visibility of the edge-sharpening effect when the Thermal Display Mode is set to thermal or picture-in-picture.

"Restore Factory Settings" - Reboots the camera and restores its factory settings. Try this option if the camera is malfunctioning.

Additionally, the video feed is now displayed in the camera setup screen for easier configuration. You can pan, tilt, and zoom with the same gestures as in the flight screen.

Bug Fixes:
Rewrote the PDF parser to handle some special cases and improve parsing speed. If you find any other Georeferenced PDF files that our app cannot parse, please send them to us so we can support them.

Improved the way we stretch the PDF when overlaying it on the map for better accuracy. You will need to reimport your PDF files to take advantage of this.

Known Compatibility Issue:
The privacy-enhanced version of our app does not work on Android 9 (Pie). We hope to get this resolved soon.

Version 2.6.1

New App Setting:
"All Applications Settings" - This setting is a shortcut that opens up the Android settings for apps on your mobile device. this is useful, because from here you can clear the defaults for specific apps. If you accidentally set an app as the default for the remote controller's USB connection, you can go to this setting to quickly clear it as the default app. You can also force stop it to ensure it's not running in the background.

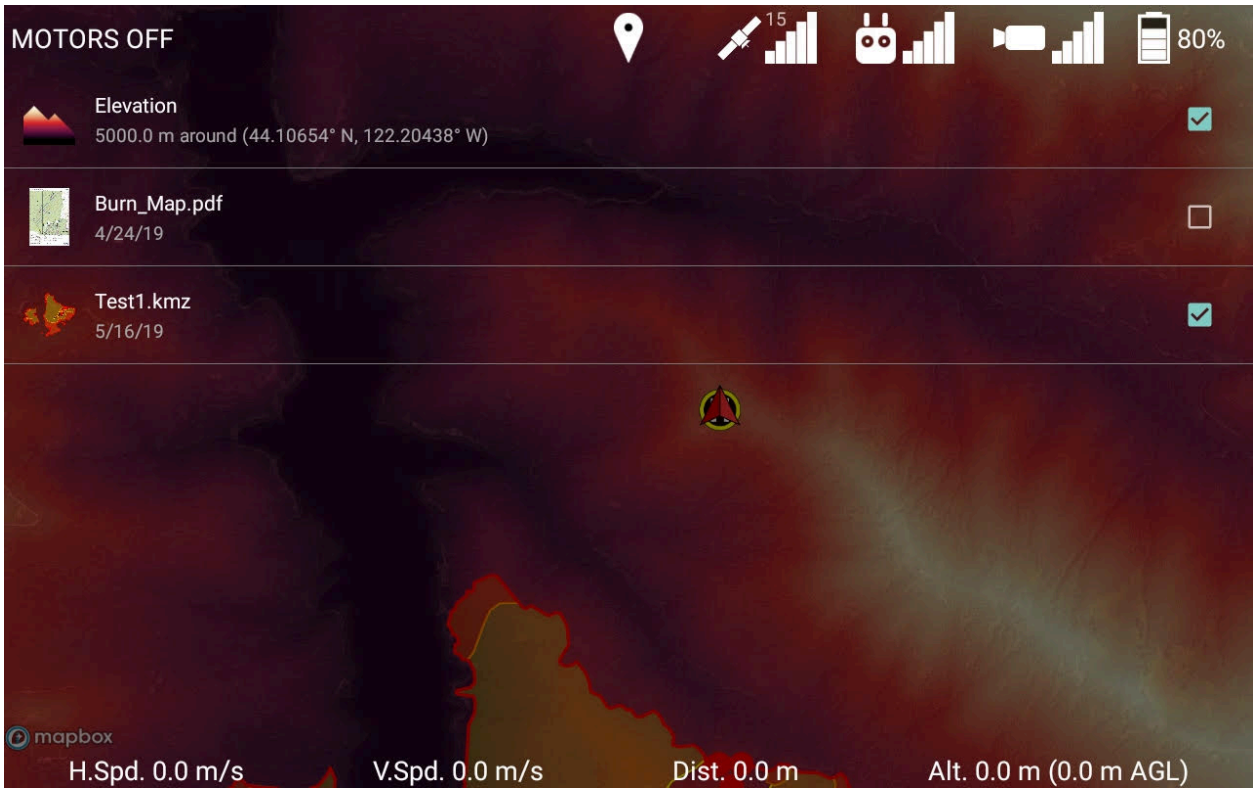
New Drone Setup Settings:
"Low Battery Warning Threshold" - This setting controls the battery percentage that will make the controller start beeping. This has no effect on the low battery procedure.

"Critical Battery Warning Threshold" - This setting controls the battery percentage that will make the controller start beeping rapidly. This has no effect on the low battery procedure.

"Low Battery Procedure" - You can select either "Land in place with a 10% battery buffer" or "Go home and land with a 10% battery buffer". If "Go home and land..." is selected, then when the drone's battery reaches a point where it determines it needs to go home now in order to land with a 10% battery buffer, then the app will prompt you to either confirm or cancel the drone's request to go home. If no action is taken within 10 seconds, the drone will automatically return home. Note that if the drone is already within 20 meters of the home point, it will land in place instead of flying directly over the home point. See the RTH Safety Notices in your drone's manual for other considerations.

New Waypoint Mission Setting:
"Waypoint Mission Lost Link Procedure" - You can select between either "End mission immediately and execute lost link procedure" or "Continue mission to completion, then execute lost link procedure if the link is not regained". For versions of the Ignis app < 2.6.1, the behavior is to continue the mission. If you choose the continue option, note that even though the drone will continue to fly along the waypoint mission while it does not have a link to the controller, Ignis will not drop.

New Toggle Overlays Controls:
When you go to toggle map overlays or elevation overlays, you'll see a new interface that allows you to individually toggle specific overlays. This is useful if you have multiple overlays for the same location, so you can easily switch between them. Press the GPS Satellite icon to leave this screen.



Bug Fixes:
The app can now import compressed Georeferenced PDF files. If you encounter any other pdf, kmz, or kml files that the app cannot import, please share them with us so we can improve compatibility.

Fixed a DJI bug that was causing the wrong number of batteries to be displayed when you touched the battery icon in the top right of the screen.

Notices of premium features:
Some of the features that we have been adding to our app are intended to be premium features, such as importing map overlays and downloading elevation maps, and this

version of the app adds some notifications of this. While the app is in its beta state, these features are available for free so we can get feedback from you. However, our intention is that when the app leaves beta, these premium features will require a license to use that can be purchased from us (the basic features necessary to operate the drone and Ignis will always be usable for free). When the app leaves beta, everyone who purchased an Ignis will get a free license to use these premium features for a year.

Version 2.6.0

Variable Drop Rate. You can now configure Ignis to drop at a slower rate (up to 12.4 seconds between drops). This is configured through a slider in the waypoints settings in the flight screen of the app. Although this setting is inside the waypoints menu, this setting affects all dropping with Ignis, including any manual dropping. This feature requires a firmware update to Ignis (version 570 or higher), otherwise the drop rate will always be at the fastest rate. Please contact us for instructions if you would like to update your Ignis's firmware.

Download any style of offline maps. The app will now download offline maps in the style you currently have selected in the settings of the app. You can choose between Mapbox Satellite (just satellite imagery), Mapbox Satellite and Streets (satellite imagery and streets), Mapbox Streets (just streets), or Mapbox Outdoors (topographic maps).

Note that there is a limit to how many offline map tiles you can have saved on your tablet. I've never been able to reach the limit when downloading just satellite imagery, but I have reached the limit when downloading maps of the other styles. If you reach the limit, you'll have to delete some other offline maps to make room, try downloading a smaller area, or download "Standard Definition" (SD) imagery instead of HD.

Touch a point on the map to see its Lat/Lng, elevation, distance

When you touch the map while you don't have the waypoints or geofencing menu open, an info bubble will appear at that location. The info bubble will display a bunch of information about that location, such as the latitude, longitude, altitude of the ground here above the takeoff location, elevation above mean sea level, and horizontal distance from the home point. You can touch the info bubble to make it disappear.

The display format of the latitude and longitude coordinates can be changed between either:

- Decimal Degrees
- Degrees, Decimal Minutes
- Degrees, Minutes, Seconds

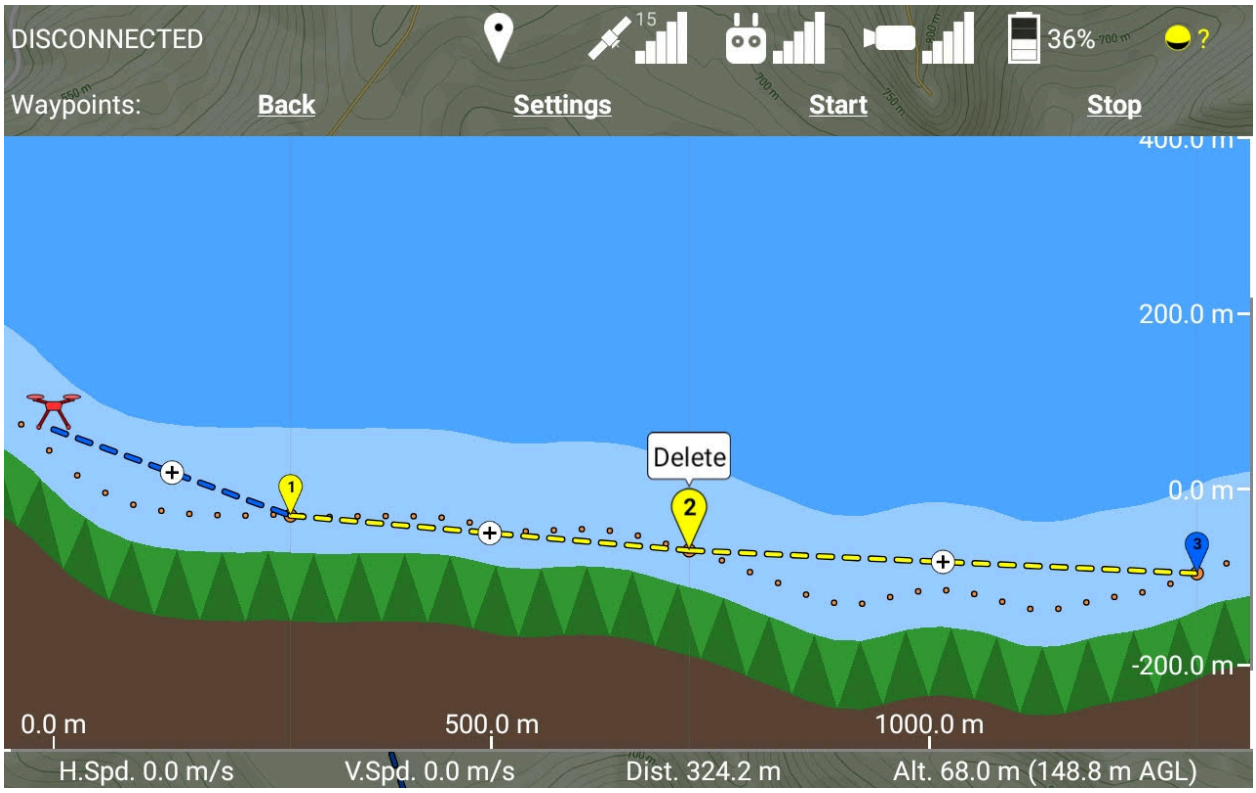
in the app's settings.

Control camera gimbal with C1 and C2 buttons
You can now configure the C1 and C2 buttons to pitch or yaw the gimbal. If both are pressed simultaneously, the gimbal will recenter itself. This way you can control the two axes of the gimbal's movement without taking your hands off the controller to touch the tablet, instead of just one with the controller's wheel.

Vastly Improved waypoint side-view interface for terrain following missions. There are new waypoint settings for "Snap" altitudes above the ground and/or takeoff location. Newly placed waypoints will automatically be set to that altitude. So, if you want to quickly make a mission where each waypoint is 50 meters above the ground level, just set that snap setting, make sure you have elevation maps for the area, and then place all of your waypoints.

In the side-view, you can now add waypoints in-between other waypoints by touching a + button in the middle of the path segment. So, if you need the drone to fly over an obstacle between two of your waypoints, you can now easily add another waypoint there and raise it above the obstacle.

Clicking on a waypoint in the side view will give you the option to delete it, so you can now delete arbitrary waypoints in the path.



Waypoints that are colinear (or nearly colinear) with their neighbors can also be dragged left and right in the side-view, which corresponds to moving them closer to the previous waypoint, or closer to the next waypoint. This works nicely with the + button, so you can drag the new waypoint exactly where you want it.

While you're dragging a waypoint in the side view, it will display its altitude above the takeoff location and altitude above ground level.

Eventually we will redesign the waypoint interface in the main map view to work in a similar way, which will also bring performance improvements.

Bug fixes: Fixed two bugs that would cause a crash in rare circumstances.

Version 2.5.4

Fixes a bug in the KML/KMZ parser that prevented it from parsing some KML/KMZ files.

Version 2.5.3

Improved drone setup screen

Version 2.5.2

Improved Ignis status messages (requires Ignis Firmware 567 or higher)
Fixed a bug that could cause the app to stop receiving messages from Ignis